

92

Population trends

In this issue

In brief	I
'New look' General Household Survey to continue, Mapping in ONS - the way forward, UK in Figures, BPS Conference on Ethnicity, Electoral Statistics 1998.	
Recent ONS publications	3
Updates and demographic indicators	4
Childhood, infant and perinatal mortality, 1996; social and biological factors in deaths of children aged under 3	5
New analyses of factors associated with the risk of mortality in infants under one year of age <i>Jeremy Schuman</i>	
Birth cohort analyses of dependent children and lone mothers living in one parent families in Great Britain	15
Age and birth year cohort analyses for children living in one parent families and lone mothers <i>John Haskey</i>	
Dementia in people aged 65 years and older: a growing problem?	23
Examines trends in death rates from dementias and neurodegenerative disorders in people aged 65 and over <i>Liz Kirby, Petra Lehmann and Azeem Majeed</i>	
Trends in suicide in England and Wales, 1982-96	29
Describes trends in suicides by gender, age, occupation and method of suicide <i>Sue Kelly and Julia Bunting</i>	
To be or not to be - what are the odds?	42
Quantifies variations in life expectancies and examines the underlying patterns of mortality <i>John Craig</i>	
Tables	
List of tables	51
Tables 1-24	52
Notes to tables	78
Contact points at ONS	80
Map of Government Office Regions	81

© Crown copyright 1998. Published with the permission of the Office for National Statistics on behalf of the Controller of Her Majesty's Stationery Office.

ISBN 0 11 620970 4
ISSN 0307-4436

Population Trends
Office for National Statistics
B7/05
1 Drummond Gate
London SW1V 2QQ
Editorial office: tel: 0171 533 5101

Editorial board
John Fox (editor)
David Pearce
Patricia Broad
Angela Dale
Karen Dunnell
Graham C Jones
Ian R Scott
Judith Walton

Population Trends is a journal of the Office for National Statistics. It is published four times a year in March, June, September and December. In addition to bringing together articles on a wide range of population and health topics, Population Trends contains regular series of tables on a wide range of subjects for which ONS is responsible.

Annual subscription, including postage, £70.00, single issues £19.00.

ONS EDITORIAL POLICY

The Office for National Statistics works in partnership with others in the Government Statistical Service to provide Parliament, government and the wider community with the statistical information, analysis and advice needed to improve decision-making, stimulate research and inform debate. It also registers key life events. It aims to provide an authoritative and impartial picture of society and a window on the work and performance of government, allowing the impact of government policies and actions to be assessed.

Contributions
Articles: 5,000 words max

dates for submissions:
Summer issue: by 29 Jan
Autumn issue: by 28 April
Winter issue: by 27 July
Spring issue: by 30 Oct

Please send to: Denise Tanner, executive secretary

Permission to reproduce material in this publication:
Copyright enquiries
Office for National Statistics
B1/04
1 Drummond Gate
London SW1V 2QQ
tel: 0171 533 5674
fax: 0171 533 5689

in brief

'New Look' General Household Survey to continue

A five-yearly review of the General Household Survey (GHS,) by the Office for National Statistics has recommended a major redesign of the GHS and its relaunch as a more efficient survey, better focused on meeting users' needs.

Consultation with users showed a clear requirement for GHS data covering demographic, social and health topics, from both government departments, for policy purposes, and from the wider community including academic research.

Key features of the proposals are:

- a 'new look' GHS will start in April 2000 with development taking place in 1999/2000
- the survey will be subject to a major redesign
- the survey sample will be reviewed
- the feasibility of alternative fieldwork arrangements, including using an element of telephone interviewing, will be investigated
- processing will be simplified
- there will be a partnership between Government Departments on funding

The design of the 'core' element of GHS will remain largely unchanged for a five year period thus avoiding the need for any significant annual redesign. The current topic areas and the continuity of statistical series will be maintained. Any additional sections, which may vary from year to year, will need to be sponsored separately.

The simplified nature of the new survey will bring large cost savings

while introducing some significant additional benefits to customers in terms of quality, timeliness and ease of access.

ONS is grateful for the range of views and comments made throughout the period of review. The next step is to detail proposals for the redesigned survey and to discuss these with GHS users inside and outside Government. ONS will continue to consult users throughout the process either directly or through such avenues as the GHS User Group of the Data Archive.

For further details contact Elaine Chamberlain at ONS (Tel: 01353 777807, e-mail elaine.chamberlain@ons.gov.uk).

The most recent survey findings from GHS are available in *Living in Britain: results from the 1996 General Household Survey*, published in February¹. Further information on results from the 1996 GHS can be obtained from Lesley Sanders (Tel: 0171 533 5444).

¹ *Living in Britain: results from the 1996 General Household Survey* (The Stationery Office, ISBN 0 11 621027 3, Price £39.50).

Mapping in ONS - the way forward electronically

Computerised mapping systems will be used for the first time in the preparation for the 2001 Census following an agreement signed between the Office for National Statistics and the Ordnance Survey.

Under the four-year agreement, OS will supply ONS with data to support a range of applications. Amongst other things, Census Division of ONS will use the systems to plan enumerator workloads, to control the issue and collection of census forms and to provide a set of building bricks to enable data to be provided for statutory areas such as districts, wards and parishes, and for customer defined areas on an ad hoc basis.

The production of maps for enumerators to work from in the field for the 1991 Census was largely carried out manually. It involved acquiring printed OS maps for each local authority area in England and Wales at 1:10,000 scale, supplemented by 70,000 up-to-date 1:2,500 or 1:1,250 scale maps, over which statutory boundaries and enumeration districts were hand drawn. In 2001 enumerators will be provided with accurate digitally produced maps of their areas. These will be produced using 1:10,000 scale raster maps (which are capable of being held as a graphic image within a computer) supported by OS's definitive large-scale map database and Boundary-Line (statutory boundaries held in digital form.) ONS will also use ADDRESS-POINT - a gazetteer of postal addresses each with an associated national grid reference.

Computerised mapping will not only be used for the 2001 Census. In the wider ONS context, geography is fundamental to the collection, processing, analysis and presentation of data. It provides the structure for controlling the cleaning and storing of data, as well as the aggregation of data to the different area levels required for publication for standard and ad hoc products. This new agreement will also enable ONS to produce high quality thematic maps for publications and help improve the presentation of data.

For more information contact John Puckey on 01329 813563.

UK in figures

The 1998 edition of *United Kingdom in Figures* is now available from ONS. This credit card-sized, fold-out, booklet contains summary statistics on a range of topics including population & vital statistics and health. Copies are available, free of charge, from the ONS Newport library (Tel: 01633 812973).

For more information contact Sallie Taylor on 01633 812915.

BSPS Conference on Ethnicity

The British Society for Population Studies is hosting a one-day conference on ethnicity on Wednesday 1 July 1998 at the London School of Tropical Medicine.

The morning session will include three short demographic papers based on recent research, covering ethnic differences in education and occupational attainment, estimating ethnic change in London 1981-91, and projections of the ethnic minority populations of London. The afternoon session will be concerned with a different approach, considering different ethnicity concepts based on both theoretical and empirical evidence.

Further information on the programme is available from John Haskey (tel: 0171 533 5121, e-mail: john.haskey@ons.gov.uk). There is no conference fee but, because seating is limited, those interested in attending are asked to contact Lorraine Streeter (e-mail: lorraine.streeter@ons.gov.uk) to confirm that room is available and to obtain details of the location.

Electoral statistics 1998

The number of parliamentary electors on the UK Electoral Register increased by 93,189 (0.2 per cent) between 1997 and 1998 to 44,296,793 according to statistics recently published by ONS.²

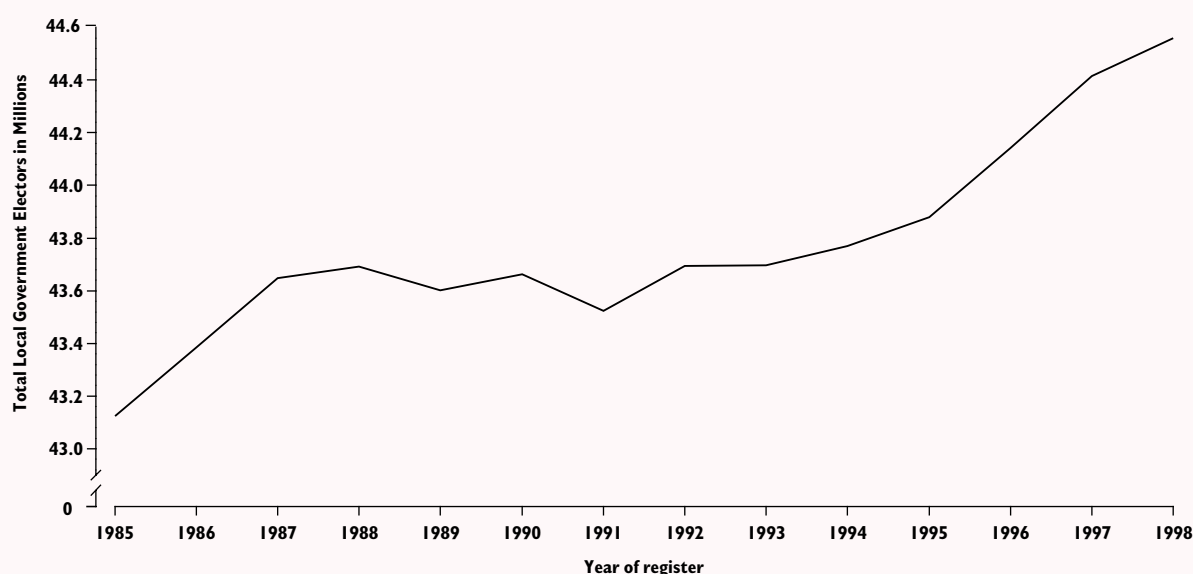
The 1998 register shows increases in the number of parliamentary electors of 79,338 in England (0.2 per cent), 8,096 in Scotland (0.2 per cent) and 7,919 in Wales (0.4 per cent) and a decrease of 2,164 (0.2 per cent) in Northern Ireland. There was also a decrease of 6,000 in the number of overseas residents who registered to vote between 1997 and 1998. The Isle of Wight remains the largest parliamentary constituency in the UK with 103,678 electors and the Western Isles, with 22,539 electors, remains the smallest.

Statistics on local government electors in the UK for 1998 show an increase of 143,000 (0.3 per cent) to 44,415,983 (the local government electorate differs from the number registered to vote in Parliamentary elections as it includes European Union citizens and peers but does not include overseas voters). Figure 1, below, shows changes in local government electors from 1985 to 1998.

² *Electoral Statistics 1998 - parliamentary and local government electors* (ONS Monitor EL 98/1, ISSN 0953-3451, Price £4.00)

Figure 1

Total local government electors in the United Kingdom



Recent ONS publications

Living in Britain: results from the 1996 General Household Survey (The Stationery Office March £39.50 ISBN 0 11 621027 3). Most recent findings from this long established survey covering a wide range of socio-demographic subjects. Special topics covered in this year's report are burglary, smoking, drinking and sport.

Housing in England 1996/97 (The Stationery Office March £39.50 ISBN 0 11 621020 6). A report of the 1996/97 Survey of English Housing carried out by Social Survey Division of ONS on behalf of the Department of the Environment, Transport and the Regions.

Birth statistics 1996 (The Stationery Office March £25 ISBN 0 11 621026 5). Annual reference volume covering births and patterns of family building in England and Wales in 1996.

Congenital anomaly statistics, notifications, 1995 and 1996 (The Stationery Office April £30 ISBN 0 11 621029 X). Review of notifications of congenital anomalies received as part of the England and Wales National Congenital Anomaly System for 1995 and 1996.

A brief guide to gender statistics (ONS March £7 ISBN 1 85774 263 X). A guide to the main sources of statistics on gender-related topics for the United Kingdom from both official and non-government sources.

Focus on London 98 (The Stationery Office April £39.50 ISBN 0 11 621030 3). Compilation volume presenting a wide range of demographic, social, industrial and economic statistics for London

Population and Health Monitors

National population projections: 1996-based (PP2 98/1 ONS March £4.00)

Conceptions in England and Wales, 1996 (FMI 98/1 ONS March £4.00)

Electoral statistics 1998 - parliamentary and local government electors (EL 98/1 ONS April £4.00)

Legal abortions, December quarter 1997 (AB 98/2 ONS May £4.00)

Live births in England and Wales 1997 (FMI 98/2 ONS May £4.00)

Deaths registered in 1997 by cause and area of residence (DH2 96/2 ONS May £4.00)

updates

Deaths

- The provisional total of deaths in England and Wales for 1997 was 558.1 thousand, a decrease of 0.9 per cent from the 1996 figure of 563.0 thousand.
- The death rate for England and Wales was 10.7 per thousand population a decrease of 0.2 per thousand population from 1996.

Births

- There were 642.1 thousand live births in England and Wales in 1997 compared with 649.5 in 1996, a decrease of 1.1 per cent.
- The birth rate for England and Wales in 1997 was 12.3 per thousand population a decrease of 0.2 per thousand population from 1996.

Demographic indicators – England and Wales

Figure 1 Population size

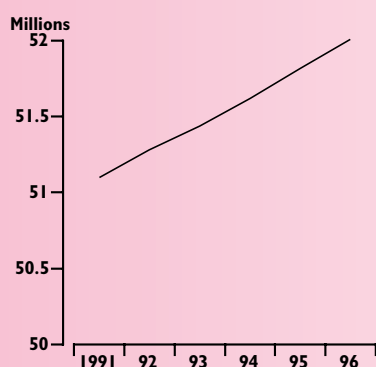


Figure 2 Population change (mid-year to mid-year)

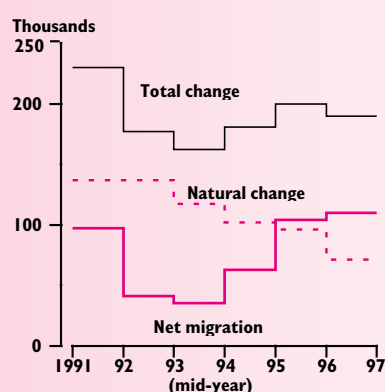


Figure 3 International migration*

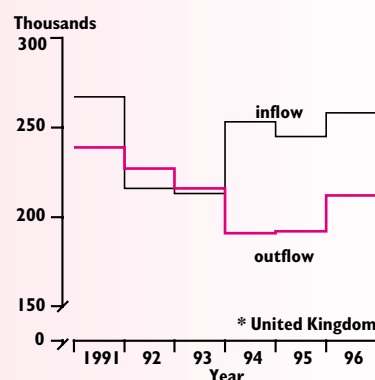


Figure 4 Births

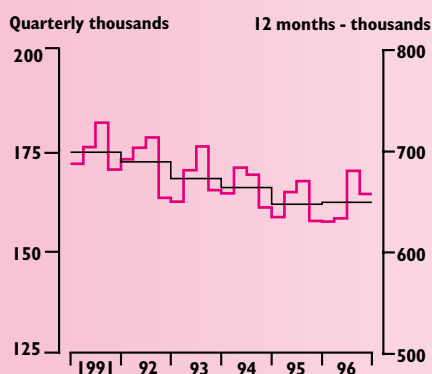


Figure 5 Deaths

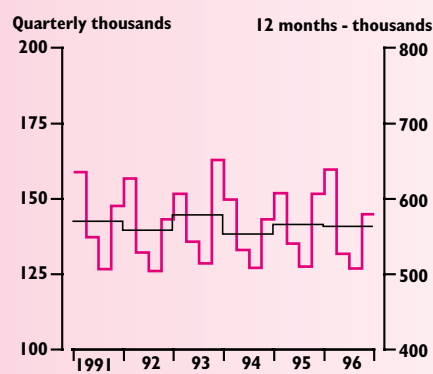
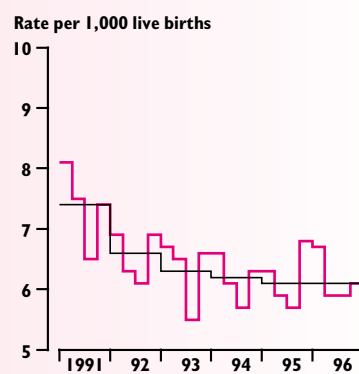


Figure 6 Infant mortality (under 1 year)



Source: Tables 5, 8 and 18

Key to Figs 4-6: — quarterly data — annual data

Childhood, infant and perinatal mortality, 1996; social and biological factors in deaths of children aged under 3

Jeremy Schuman
Demography and Health
ONS

This article comments on statistics recently published by ONS relating to infant and childhood mortality in 1996. Several factors – birthweight, mother’s age, marital status of parents, father’s social class, mother’s country of birth, multiple birth status, and sex – are known to be associated with the risk of mortality in infants under one year of age. For the first time, ONS is now able to analyse the deaths of 1 and 2 year-old children according to these same factors. The results indicate that these factors are also associated with mortality rates in these older children.

INTRODUCTION

Infant and childhood mortality rates are often considered to be key measures of a country’s health. During this century, there have been dramatic improvements in both measures in England and Wales, raising the question of whether further improvements are possible. Differentials in rates for various groups of infants and children can identify the potential for possible future improvements.

This article comments on the infant and childhood mortality statistics in *Mortality Statistics: Childhood, infant and perinatal, England and Wales 1996*¹. It also presents new data on childhood deaths at ages 1 and 2 using information from both the birth and death records.

TRENDS IN INFANT AND CHILDHOOD MORTALITY

Mortality rates are generally at their highest immediately after birth. They fall sharply throughout the first year of life and continue to fall, though more slowly, to a minimum in the 5 to 9 age group. The rates then rise gradually with age. At all ages in infancy and childhood, the mortality rates are higher for boys than for girls.

The infant mortality rate (the number of babies dying under one year of age per 1,000 live births) in England and Wales in 1996 was 6.1, the same as in 1995, which was the lowest ever recorded. Table 1 and Figure 1 show trends in the two components of infant mortality: neonatal deaths (deaths at ages less than 28 days), and postneonatal deaths (deaths at ages 28 days or over but under one year). These show that there have been substantial falls in both rates over the last 15 years. The neonatal rate has fallen at a fairly steady rate over this period, whereas the postneonatal rate showed a rapid decrease between 1988 and 1992. This is largely due to the reduction in the

Table 1 Stillbirth and infant mortality rates*, 1981-1996, England and Wales

Year of death	Stillbirths **	Neonatal deaths	Post-neonatal deaths	Infant deaths
1981	6.6	6.6	4.3	11.0
1982	6.3	6.3	4.6	10.8
1983	5.7	5.9	4.3	10.1
1984	5.7	5.5	3.9	9.4
1985	5.5	5.4	4.0	9.4
1986	5.3	5.3	4.3	9.6
1987	5.0	5.1	4.1	9.2
1988	4.9	4.9	4.1	9.0
1989	4.7	4.8	3.7	8.4
1990	4.6	4.6	3.3	7.9
1991	4.6	4.4	3.0	7.4
1992	4.3	4.3	2.3	6.6
1993	4.4	4.2	2.2	6.3
1994	4.4	4.1	2.1	6.2
1995	4.2	4.2	2.0	6.1
1996	4.0	4.1	2.0	6.1

* Stillbirth rates per 1,000 total births.

Neonatal, postneonatal and infant mortality rates per 1,000 live births

** All figures are based on stillbirths which occurred after 28 or more weeks gestation.

number of sudden infant deaths (or *cot deaths*), which fell from 1,597 in 1988 to 424 in 1996². Most sudden infant deaths occur in the postneonatal period.

On 1 October 1992 the legal definition of a stillbirth was altered from a baby born dead after 28 or more completed weeks gestation to one born dead after 24 or more completed weeks gestation. In Table 1, stillbirths of between 24 and 27 completed weeks gestation have been excluded from the 1992-1996 figures to allow comparison with the earlier years' data. It can then be seen that the improvement in the stillbirth rate over the last 15 years has mirrored almost exactly the improvement in the neonatal mortality rate.

Table 2 and Figure 2 show the trend in childhood mortality rates since 1981, broken down into three age bands; ages 1 to 4, ages 5 to 9, and ages 10 to 14. All three age groups have seen an improvement in mortality rates by over a third over the last 15 years.

Figure 1 Infant mortality rates, 1981-1996, England & Wales

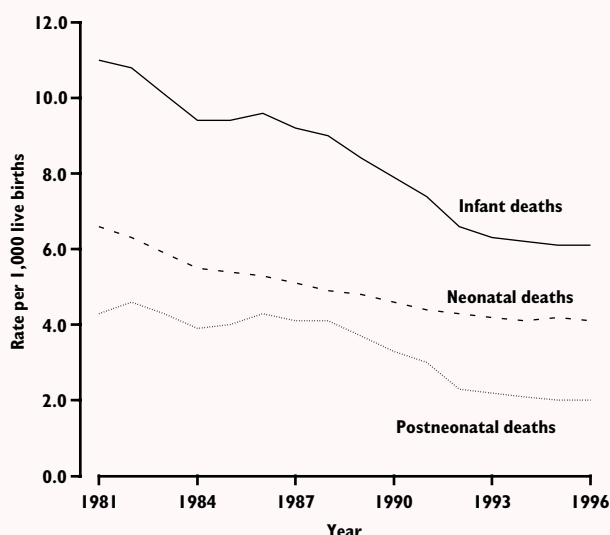


Table 2 Childhood mortality rates*, 1981-1996, England and Wales

Year of death	Ages 1-4	Ages 5-9	Ages 10-14
1981	50	23	24
1982	47	21	23
1983	44	23	22
1984	42	21	22
1985	45	20	23
1986	42	19	19
1987	42	18	20
1988	42	19	20
1989	40	19	19
1990	38	17	19
1991	36	18	19
1992	32	16	17
1993	32	14	18
1994	29	14	17
1995	26	14	17
1996	28	12	15

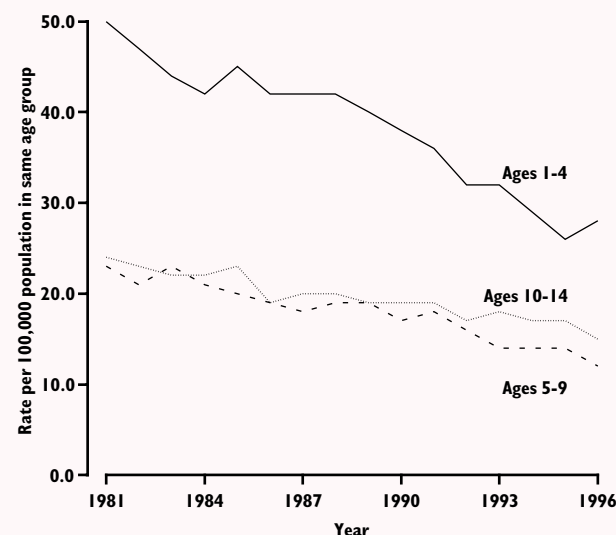
* All rates are per 100,000 population of the same age

CAUSES OF DEATH

Stillbirth and neonatal death certificates allow for fetal conditions and maternal conditions to be recorded separately. These conditions are given equal weight and it is therefore not possible to derive a single underlying cause of neonatal death or stillbirth, as it is with postneonatal and childhood death. For this reason, ONS, in conjunction with a team of experts in the field, has developed methods for classifying neonatal deaths and stillbirths. This allows the death or stillbirth to be assigned to specific categories, described in the published volume as 'ONS cause groups', based on the likely timing of the conditions leading to the death. These methods of classification have been described in detail elsewhere.^{3,4}

Of the 3,539 stillbirths which occurred in 1996 in England and Wales, 1,039 (29 per cent) had no cause of death recorded on the medical certificate, making it difficult to conduct a thorough

Figure 2 Childhood mortality rates, 1981-1996, England and Wales



analysis of stillbirths by cause. For those babies where a cause was recorded, 44 per cent were assigned to antepartum asphyxia, anoxia or trauma, using the ONS classification just mentioned, and 14 per cent to congenital anomaly. These findings are similar to those seen in previous years. The split of stillbirths by the ONS classification is shown in Figure 3.

For the 2,645 **neonatal** deaths which occurred in 1996, using the ONS classification, 51 per cent were assigned to immaturity related conditions, 26 per cent to congenital anomalies, and 11 per cent to asphyxia, anoxia or trauma. This split is shown in Figure 3. Again, these findings are similar to those seen in previous years.

Figure 4 shows the breakdown by underlying cause of death of the postneonatal and childhood deaths which occurred in 1996. Of the 1,314 **postneonatal** deaths which occurred in 1996, 21 per cent had an underlying cause of congenital anomaly, 11 per cent disease of the respiratory system, and 26 per cent sudden infant death. This situation has changed markedly since 1988, when 49 per cent of the 2,849 postneonatal deaths had an underlying cause of sudden infant death. Sixty-eight per cent of the fall in the number of postneonatal deaths since 1988 is due to the reduction in sudden infant deaths.

As with previous years, injury and poisoning were the major causes of death for **children** aged 1 to 14 in 1996, accounting for a quarter of all deaths in this age group. The next major cause of childhood death was neoplasm, accounting for 13 per cent of deaths in the 1 to 4 age group and 23 per cent in the 5 to 14 age group.

LINKAGE OF BIRTH AND DEATH RECORDS

Apart from details about the child's sex, area of residence and occupation of his or her parents, death records do not include the fuller range of information recorded at birth registration. For this reason, ONS (previously OPCS) has, since 1975, linked the death records of infants (i.e. those under one year of age) to

their corresponding birth records. This provides such information as birthweight, age of mother at birth of child, country of birth of mother, marital status of parents, and whether the birth was multiple or singleton. Of the infant deaths which occurred in England and Wales in 1996, 98 per cent were successfully linked to their birth records. The majority of those not linked were born outside England and Wales, and so do not have a birth record in this country.

The last major analysis by ONS of childhood mortality rates was conducted in 1995,⁵ when the linkage of birth and death records was available for just infants. In 1994, ONS started linking childhood death records to the corresponding birth records. This is being done for all children who were born on or after 1 January 1993, so for the first time we can now analyse the deaths of 1 and 2 year old children according to various factors at the time of their birth. The numbers of deaths each year are quite small, but in future we will be able to calculate rates based on deaths over a three year period, which will add weight to our findings.

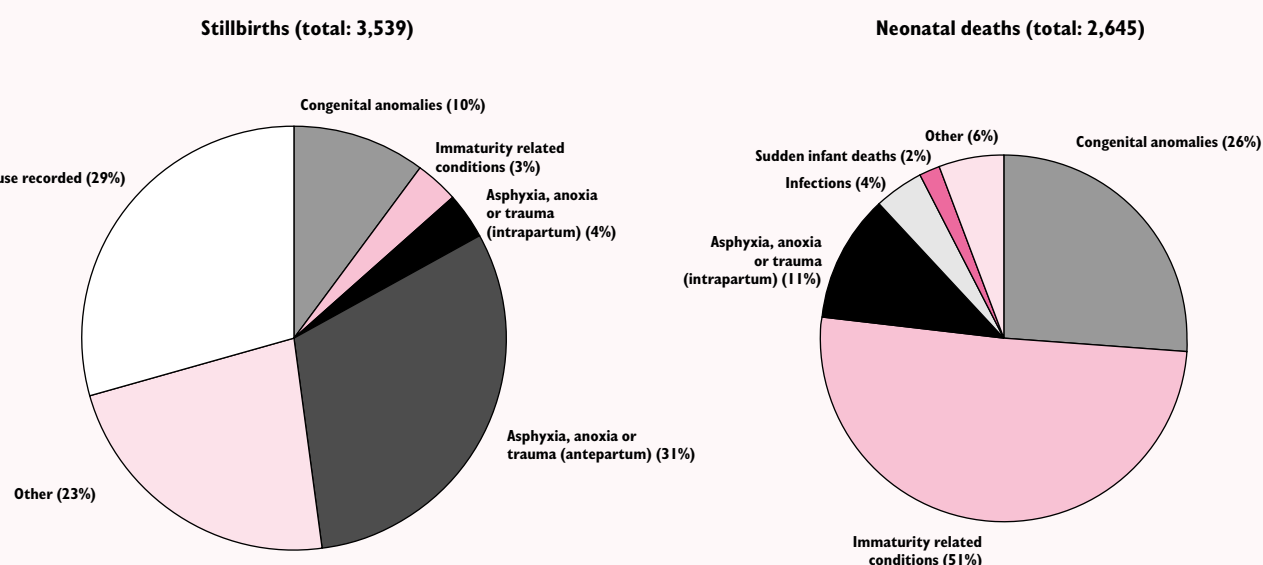
The infant, 1 year old and 2 year old mortality rates, according to 7 different factors recorded at birth, are analysed in Tables 3 to 9. All the tables are based on the year of birth of the baby or child.

ONS maintains a 'live' database of all deaths registered in England and Wales which have occurred since 1 January 1993. This is continually updated and amended as further information becomes available. Datasets for a particular period are extracted from the database at a time when there are no longer expected to be any significant changes to the data for that period. The datasets on which the tables in this article were based are the same as those used for the publication of infant mortality for the years 1993 to 1996.⁶ The dates of creation of these datasets appear as an endnote to this article.

For babies born in 1993, the numbers who died as infants, those who died aged 1, and those who died aged 2 are enumerated, as well as the corresponding mortality rates. For infant deaths, the rate

Figure 3

**Stillbirths and neonatal deaths, 1996 - cause of death by ONS classification
England and Wales**



is calculated as the number of babies born in 1993 who died during their first year of life per 100,000 live births in 1993. For children dying aged 1 or 2, the rate is calculated as the number of children dying at that age per 100,000 children who had reached that age. For example, the 'age 1' mortality rate for 1993 indicates how many children born in 1993 died aged 1 per 100,000 children born in 1993 who reached their first birthday.

For babies born in 1994, analysis at this time is possible only for infant deaths and childhood deaths at age 1. For babies born in 1995, analysis is possible only for infant deaths.

BIRTHWEIGHT

The data for 1993, 1994 and 1995 show the usual strong association between birthweight and infant mortality. For each of these years, the infant mortality rate for babies born weighing less than 1,000 grams (extremely low birthweight babies) was over 200 times the rate for babies born weighing 3,000 grams or more.

Over the ten year period 1985 to 1995, there has been a major reduction in the infant mortality rate for these extremely low birthweight babies, reflecting improvements in neonatal intensive care over this period. For every 1,000 liveborn babies in 1985 weighing less than 1,000 grams, 538 died during their first year of life, 489 of these during their first month. For babies born in 1995 in the same birthweight group, 452 of every 1,000 died during their first year, 389 of these during their first month. This represents a 16 per cent reduction in the infant mortality rate for extremely low birthweight babies over the ten year period.

The figures in Table 3 indicate that the association between birthweight and mortality is also true at ages 1 and 2. Low birthweight babies (i.e. those weighing less than 2,500 grams) born in 1993 who survived their first year of life had an 'age 1' mortality rate almost four times that for 1 year olds who were born weighing 3,000 grams or more. Those who survived their second year of life had an 'age 2' mortality rate more than double that for 2 year olds who were born weighing 3,000 grams or more.

MOTHER'S AGE

For babies born in each of the years 1993, 1994 and 1995, those whose mothers were in the under 20 age group at the time of the birth had the highest infant mortality rates (see Table 4). Those whose mothers were in the over 40 age group also showed generally higher rates than those with mothers aged between 20 and 39. Over this three year period, the lowest infant mortality rates were experienced by the children of mothers in the 25-29 or 30-34 age groups.

The 'age 1' and 'age 2' mortality rates appear to show a very similar pattern, although the rates for babies dying aged 1 whose mothers were in the 20-24 age group at birth show rates similar to the under 20 age group.

MARITAL STATUS OF PARENTS

Infant mortality is strongly associated with marital status and other indicators of the parents' situation at birth registration (see Table 5). For babies born between 1993 and 1995, the infant mortality rate was lowest for those born inside marriage. The rate for infants born outside marriage whose births were registered by both parents giving the same address was between 25 and 35 per cent higher than the rate for infants born inside marriage. The rate was highest for babies born outside marriage where either the birth was registered by the mother alone or it was registered by both parents

Figure 4

Underlying causes of postneonatal & childhood deaths, 1996, England and Wales

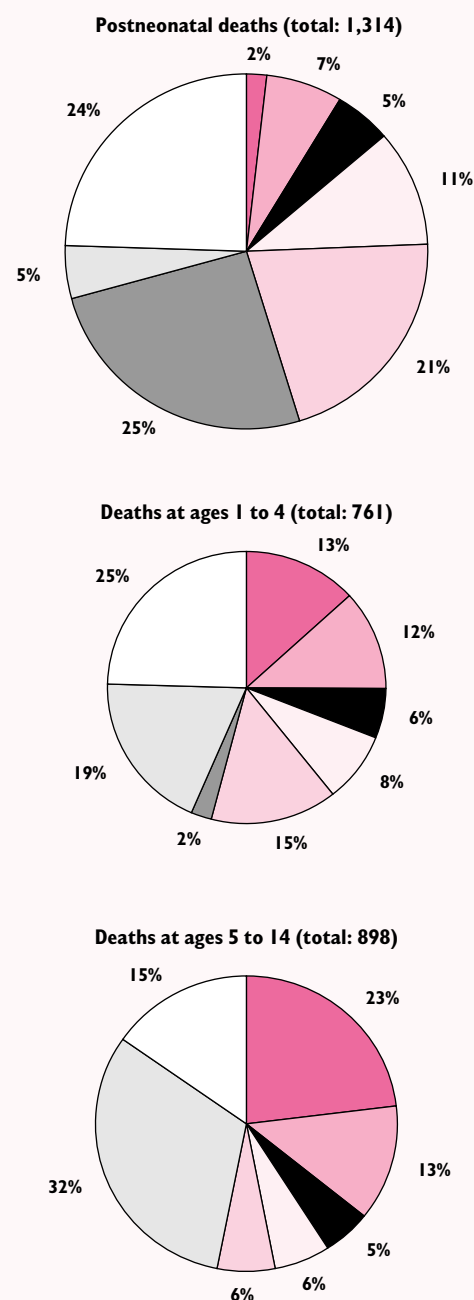


Table 3

Infant and childhood deaths, ages 1 and 2, by birthweight, England and Wales

Birthweight (grams)	Year of birth	Numbers			Rates per 100,000		
		Age at death			Age at death		
		Under 1	Age 1	Age 2	Under 1	Age 1	Age 2
Total	1993	4141	299	192	617	45	29
	1994	3982	301	—	599	46	—
	1995	3948	—	—	609	—	—
<1000	1993	1185	11	0	46507	807	—
	1994	1202	7	—	42175	425	—
	1995	1300	—	—	45280	—	—
1000-1499	1993	395	8	4	9438	211	106
	1994	405	11	—	9161	274	—
	1995	395	—	—	8385	—	—
1500-1999	1993	285	16	4	3145	182	46
	1994	252	14	—	2760	158	—
	1995	257	—	—	2657	—	—
2000-2499	1993	323	21	15	1121	74	53
	1994	291	27	—	1013	95	—
	1995	345	—	—	1148	—	—
2500-2999	1993	467	68	35	435	64	33
	1994	468	62	—	437	58	—
	1995	478	—	—	437	—	—
3000-3499	1993	576	92	67	244	39	28
	1994	554	93	—	237	40	—
	1995	554	—	—	236	—	—
3500-3999	1993	331	53	53	174	28	28
	1994	296	59	—	157	31	—
	1995	334	—	—	180	—	—
4000+	1993	132	20	9	182	28	12
	1994	147	22	—	205	31	—
	1995	208	—	—	301	—	—
Low birthweight (<2500)	1993	2188	56	23	4904	132	54
	1994	2150	59	—	4765	137	—
	1995	2297	—	—	4856	—	—
Very low birthweight (<1500)	1993	1580	19	4	23467	369	78
	1994	1607	18	—	22101	318	—
	1995	1695	—	—	22356	—	—

Rates for age under 1 are per 100,000 live births.

Rates for ages 1 and 2 are per 100,000 children who reached that age.

Table 4

Infant and childhood deaths, ages 1 and 2, by mother's age, England and Wales

Mother's age	Year of birth	Numbers			Rates per 100,000		
		Age at death			Age at death		
		Under 1	Age 1	Age 2	Under 1	Age 1	Age 2
Total	1993	4141	299	192	617	45	29
	1994	3982	301	—	599	46	—
	1995	3948	—	—	609	—	—
Under 20	1993	410	27	29	909	60	65
	1994	423	33	—	1007	79	—
	1995	397	—	—	947	—	—
20-24	1993	1051	96	42	692	64	28
	1994	994	91	—	709	65	—
	1995	954	—	—	730	—	—
25-29	1993	1250	87	58	530	37	25
	1994	1192	90	—	520	39	—
	1995	1183	—	—	544	—	—
30-34	1993	952	60	42	557	35	25
	1994	917	52	—	511	29	—
	1995	910	—	—	502	—	—
35-39	1993	386	23	16	656	39	27
	1994	392	30	—	622	48	—
	1995	411	—	—	627	—	—
40+	1993	92	6	5	874	58	48
	1994	64	5	—	597	47	—
	1995	93	—	—	822	—	—

Rates for age under 1 are per 100,000 live births.

Rates for ages 1 and 2 are per 100,000 children who reached that age.

who gave different addresses. Both these groups experienced infant mortality rates between 45 and 68 per cent higher than that for babies born inside marriage.

For children dying at age 1, a similar association is seen, with those born inside marriage having the lowest mortality rates. For children dying at age 2, again the mortality rates are highest for those born outside marriage where either the birth was registered by the mother alone or it was registered by both parents who gave different addresses.

FATHER'S SOCIAL CLASS

Although information on the mother's occupation has been collected for live births since 1986 and for infant deaths since 1982, the information is incomplete.⁷ Social class is therefore based on the father's occupation, and so we are restricted to cases where the child's birth was either within marriage, or if outside marriage, registered by both parents. Of all live births between 1993 and 1995, 93 per cent fell into this category. Cases other than these will not have a father's occupation recorded on the birth registration. Social class is defined according to the 1990 Standard Occupational Classification.

Statistics published in the past have shown a strong association between father's social class and infant mortality. For babies born in 1995, those whose fathers were in Social Class V (unskilled occupations) had infant mortality rates 68 per cent higher than those whose fathers were in Social Class I (professional occupations) (see Table 6).

For children dying at age 2, the association between father's social class and mortality rates is not quite as clear. For children dying at age 1, however, the association is more evident, with the rate for social class V being more than double that for Social Class I. This is consistent with statistics recently published by ONS⁸ which show that during the period 1991-1993, children in the 1 to 4 age

group whose fathers were in Social Class V had a mortality rate more than double that for children in the same age group whose fathers were in Social Class I.

MOTHER'S COUNTRY OF BIRTH

Information on ethnic group is not collected at birth registration, so the mother's country of birth has often been used as a 'proxy' measure. It is becoming increasingly the case, however, that a mother's country of birth is not necessarily an indication of her ethnic group, but more a measure of immigrant status.⁹

For babies born in 1995, those whose mothers were born outside the UK had an infant mortality rate 23 per cent higher than for those whose mothers had been born within the UK. Mothers from the 'New Commonwealth' (ie. Commonwealth countries other than Canada, Australia and New Zealand) in particular experienced infant mortality rates 41 per cent higher than mothers from the UK. Within the New Commonwealth category, the highest rates were experienced by mothers from Pakistan and the Caribbean.

The numbers in Table 7 for ages 1 and 2 are too small to allow much meaningful analysis of mortality rates, but the New Commonwealth category again shows higher rates than the UK category.

MULTIPLE BIRTHS

Babies' birthweights and mortality are affected by, amongst other factors, whether they were one of a multiple birth. Although increasing, the number of multiple births is still relatively small. Of the 648,001 live births in 1995, less than 3 per cent arose from multiple maternities.

For children born in 1993, 1994 and 1995, the infant mortality rate for twins was over five times that for singletons, and the rate for triplets and higher order multiples was over 12 times that for singletons (see Table 8). These increased mortality rates can be largely explained by the higher proportion of low birthweights seen with multiple births.

Table 5 Infant and childhood deaths, ages 1 and 2, by marital status, England and Wales

Marital status	Year of birth	Numbers			Rates per 100,000		
		Age at death			Age at death		
		Under 1	Age 1	Age 2	Under 1	Age 1	Age 2
Total	1993	4141	299	192	617	45	29
	1994	3982	301	—	599	46	—
	1995	3948	—	—	609	—	—
Inside marriage	1993	2472	168	128	543	37	28
	1994	2378	173	—	530	39	—
	1995	2278	—	—	532	—	—
Outside marriage, joint registration, same address	1993	863	67	25	730	57	21
	1994	820	57	—	662	46	—
	1995	906	—	—	709	—	—
Outside marriage, joint registration, different addresses	1993	379	26	21	800	55	45
	1994	376	36	—	884	85	—
	1995	394	—	—	892	—	—
Outside marriage, sole registration	1993	427	38	18	854	77	36
	1994	408	35	—	832	72	—
	1995	370	—	—	772	—	—

Rates for age under 1 are per 100,000 live births.

Rates for ages 1 and 2 are per 100,000 children who reached that age.

Table 6

Infant and childhood deaths, ages 1 & 2, by father's social class
For births inside marriage or outside marriage, joint registration, England and Wales

Father's social class	Year of birth	Numbers			Rates per 100,000		
		Age at death			Age at death		
		Under 1	Age 1	Age 2	Under 1	Age 1	Age 2
All classes	1993	3714	261	174	598	42	28
	1994	3574	266	—	581	43	—
	1995	3578	—	—	596	—	—
Social class I	1993	210	10	13	458	22	28
	1994	201	13	—	433	28	—
	1995	192	—	—	422	—	—
Social class II	1993	717	37	32	480	25	22
	1994	676	41	—	451	27	—
	1995	703	—	—	476	—	—
Social class IIIN	1993	341	28	8	544	45	13
	1994	328	25	—	520	40	—
	1995	323	—	—	528	—	—
Social class IIIM	1993	1153	70	48	562	34	24
	1994	1088	63	—	541	31	—
	1995	1031	—	—	536	—	—
Social class IV	1993	499	43	23	553	48	26
	1994	537	44	—	611	50	—
	1995	576	—	—	659	—	—
Social class V	1993	242	23	13	664	64	36
	1994	239	22	—	663	61	—
	1995	243	—	—	710	—	—

Rates for age under 1 are per 100,000 live births.

Rates for ages 1 and 2 are per 100,000 children who reached that age.

The numbers of twins and higher order multiples dying at the ages of 1 and 2 are too small to draw any definite conclusions, but the rates for age 1 suggest that twins have a higher mortality risk than singletons even after their first year of life.

In 1995, as in previous years, over half of all live births in a multiple delivery were of low birthweight (less than 2,500 grams) compared with 6 per cent of singleton live births. An even more marked pattern is seen with subgroups of this low birthweight category. Figure 5 shows the distribution by birthweight of live births from singleton and multiple births in 1995. Ten per cent of babies born in a multiple birth were of very low birthweight (less than 1,500 grams) compared with less than one per cent of singleton births.

SEX

The fact that boys experience higher mortality rates than girls at all ages has been referred to earlier in this article. Table 9 shows this to be the case for infants and for children aged 1 and 2. The difference in rates between the sexes is most pronounced during the first year of life (with male rates being between 23 and 34 per cent higher than the female rates). The difference is less pronounced at ages 1 and 2, but has been shown⁸ to be more pronounced in later childhood. This is largely due to the fact that accidental deaths are more common among boys than girls: in the 1 to 14 age group, nearly a third of male deaths are due to injury or poisoning, compared with a fifth of female deaths.

Figure 5

Percentage distribution of singleton and multiple live births by birthweight, 1995, England and Wales

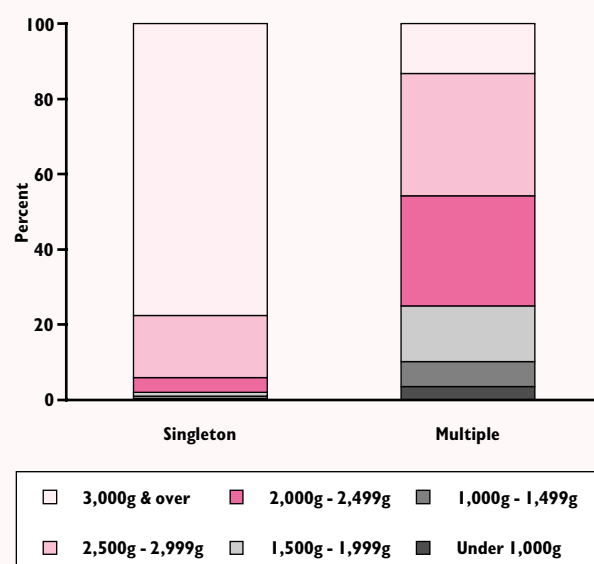


Table 7

Infant and childhood deaths, ages 1 and 2, by mother's country of birth, England and Wales

Mother's country of birth	Year of birth	Numbers			Rates per 100,000		
		Age at death			Age at death		
		Under 1	Age 1	Age 2	Under 1	Age 1	Age 2
All countries	1993	4141	299	192	617	45	29
	1994	3982	301	—	599	46	—
	1995	3948	—	—	609	—	—
United Kingdom	1993	3518	248	152	594	42	26
	1994	3377	255	—	580	44	—
	1995	3351	—	—	592	—	—
Irish Republic	1993	34	3	1	643	—	—
	1994	30	3	—	563	—	—
	1995	32	—	—	619	—	—
Rest of European Union	1993	49	2	2	660	—	—
	1994	52	1	—	663	—	—
	1995	34	—	—	423	—	—
Australia, Canada, New Zealand	1993	23	1	2	728	—	—
	1994	12	—	—	369	—	—
	1995	18	—	—	590	—	—
New Commonwealth	1993	417	39	29	858	81	60
	1994	409	37	—	848	77	—
	1995	396	—	—	837	—	—
Bangladesh	1993	29	4	3	495	—	—
	1994	43	3	—	688	—	—
	1995	34	—	—	501	—	—
India	1993	44	3	0	601	—	—
	1994	40	2	—	569	—	—
	1995	50	—	—	748	—	—
Pakistan	1993	161	19	15	1236	148	117
	1994	140	17	—	1096	135	—
	1995	137	—	—	1112	—	—
East Africa	1993	34	6	1	597	—	—
	1994	33	9	—	585	—	—
	1995	29	—	—	566	—	—
Caribbean	1993	39	1	4	1260	—	—
	1994	37	2	—	1222	—	—
	1995	40	—	—	1386	—	—
Other	1993	100	6	3	591	—	—
	1994	102	5	—	585	—	—
	1995	117	—	—	645	—	—

Note: the numbers of deaths in most categories are too small to make publication of rates meaningful.

Rates for age under 1 are per 100,000 live births.

Rates for ages 1 and 2 are per 100,000 children who reached that age.

Table 8 Infant and childhood deaths, ages 1 and 2, by multiple birth status, England and Wales

Multiple birth status	Year of birth	Numbers			Rates per 100,000		
		Age at death			Age at death		
		Under 1	Age 1	Age 2	Under 1	Age 1	Age 2
Total	1993	4141	299	192	617	45	29
	1994	3982	301	—	599	46	—
	1995	3948	—	—	609	—	—
Singletons	1993	3605	287	187	549	44	29
	1994	3438	288	—	531	45	—
	1995	3392	—	—	538	—	—
Twins	1993	481	12	5	2947	76	32
	1994	493	13	—	2974	81	—
	1995	490	—	—	2851	—	—
Triplets+	1993	55	0	0	7514	—	—
	1994	51	0	—	6464	—	—
	1995	66	—	—	7674	—	—

Rates for age under 1 are per 100,000 live births.

Rates for ages 1 and 2 are per 100,000 children who reached that age.

Table 9 Infant and childhood deaths, ages 1 and 2, by sex, England and Wales

Sex	Year of birth	Numbers			Rates per 100,000		
		Age at death			Age at death		
		Under 1	Age 1	Age 2	Under 1	Age 1	Age 2
Total	1993	4141	299	192	617	45	29
	1994	3982	301	—	599	46	—
	1995	3948	—	—	609	—	—
Male	1993	2340	158	102	677	46	30
	1994	2330	158	—	683	47	—
	1995	2270	—	—	683	—	—
Female	1993	1801	141	90	550	43	28
	1994	1652	143	—	511	44	—
	1995	1678	—	—	531	—	—

Rates for age under 1 are per 100,000 live births.

Rates for ages 1 and 2 are per 100,000 children who reached that age.

CONCLUSION

This article has given a broad overview of the effect that various social and biological factors have on infant and childhood mortality. It shows that factors known to raise the risk of infant mortality are also associated with higher mortality rates in children at ages 1 and 2. If these associations also hold in later life, then they will add to the association between birthweight and health in middle-age which has already been demonstrated.¹⁰ Each year, we will be able to test these associations for progressively older children, and extend our knowledge of the factors related to childhood deaths.

As all of these factors are inter-related, an analysis of the associations between mortality and different combinations of these factors can throw more light on which babies and children are most at risk. This more detailed analysis is not possible at the moment for the 'age 1' and 'age 2' mortality rates in view of the small numbers involved to date. For stillbirth and infant mortality rates, a variety of tabulations using different combinations of factors appear in *Mortality Statistics 1996: Childhood, infant and perinatal, England and Wales*.¹

Key points

- The strong association between birthweight and mortality seen for infants under 1 year of age also holds for children at ages 1 and 2.
- For each of the ages 0, 1 and 2, mortality rates are lowest for the children of mothers in the 25-29 or 30-34 age groups.
- Mortality rates at ages 0, 1 and 2 are lowest for children who were born either inside marriage, or outside marriage where the birth was registered by both parents giving the same address.
- The children of mothers born in the New Commonwealth experienced higher mortality rates than the children of mothers born in the UK at ages 1 and 2 as well as under 1 year of age.

ENDNOTE

Datasets

The datasets on which Tables 3 to 9 were based were created on the following dates:

Deaths occurring in 1993: 3 April 1996
 Deaths occurring in 1994: 3 April 1996
 Deaths occurring in 1995: 18 September 1996
 Deaths occurring in 1996: 3 November 1997

References

- 1 *Mortality Statistics: Childhood, infant and perinatal, England and Wales*. 1996. Series DH3 no.29. The Stationery Office (1998).
- 2 *Sudden infant deaths, 1992-1996*. ONS Population and Health Monitor, DH3 97/2 (ONS).
- 3 Alberman E, Botting B, Blatchley N, Twidell A. A new hierarchical classification of causes of infant deaths in England and Wales. *Archives of Disease in Childhood* 1994; 70: 403-409.
- 4 Alberman E, Blatchley N, Botting B, Schuman J, Dunn A. Medical causes on stillbirth certificates in England and Wales: distribution and results of hierarchical classifications tested by the Office for National Statistics. *British Journal of Obstetrics and Gynaecology*. September 1997, vol. 104, pp. 1043-1049.
- 5 *The health of our children - Decennial Supplement*. Series DS no.11. HMSO (1995).
- 6 *Mortality Statistics: Childhood, infant and perinatal, England and Wales*. 1993-1996. Series DH3, nos. 27 to 29. The Stationery Office.
- 7 Botting B, Cooper J. Analysing fertility and infant mortality by mother's social class as defined by occupation. *Population Trends*, no. 74, pp. 27-33
- 8 *Health Inequalities*. Series DS, no. 15. Chapter 7. The Stationery Office (1997).
- 9 Haskey J. The ethnic minority and overseas-born populations of Great Britain. *Population Trends*, no. 88, pp. 13-30.
- 10 Barker D J P. *Mothers, babies and disease in later life*. British Medical Journal Publishing Group (1994).

Birth cohort analyses of dependent children and lone mothers living in one-parent families in Great Britain

John Haskey
Demography and Health Division
ONS

This paper uses the recently published updated estimates¹ of the numbers of one-parent families and dependent children living in them to construct two sets of birth cohort analyses. In the first set, the proportion of children who were living in one-parent families is analysed by the child's age and birth year, whilst in the second set, the proportions of all mothers with dependent children who were lone mothers are analysed by the mother's age and birth year. Finally, the paper presents trends in the proportions of lone mothers and married mothers who were working, and compares them with the corresponding trends for similar mothers whose youngest child was aged under 5.

INTRODUCTION

The number of one-parent families is estimated to have risen steadily in the early 1990s, as has also the estimated number of dependent children living in these families¹. Whilst the different data sources cannot very easily detect changes of pace in the annual increases in these two series, and despite the fact that the 'best estimates' were chosen to form a linear trend wherever the data permitted it, it is nevertheless surprising that the upward trend seems to have been so uniform over the past decade. For, since 1985, there have been some large changes in the numbers of women of specific ages within the entire child-bearing age range, a substantial decline in fertility rates for women aged under 25, an appreciable increase in fertility rates for women aged 30 or over, and a large increase in the incidence of births outside marriage.

This article estimates the chance of a child, born in a given year, being a child living in a one-parent family in successive years. Also estimated is the chance of a mother being a lone mother in a given year, according to the birth year of the mother. In essence, the idea behind these analyses is to obtain a better understanding of the trends in lone parenthood. However, before developing this theme further, it is appropriate to define the terms of 'one-parent family' and 'dependent child'.

DEFINITION OF A ONE-PARENT FAMILY

The definition of a one-parent family is the one used by the Department of Social Security and has been used for official purposes since 1971. It is the definition adopted in the *Finer report*² on one-parent families: 'a mother or a father living without a spouse (and not cohabiting) with his or her never-married dependent child or children aged either under 16 or from 16 to (under) 19 and undertaking full-time education'.

In this article, attention will be concentrated upon dependent children in one-parent families, and also on lone mothers in one-parent families. Lone mothers therefore have one or more dependent children in their families.

THE DERIVATION OF THE NUMBERS OF ONE-PARENT FAMILIES AND THEIR DEPENDENT CHILDREN

The difficulties involved in deriving accurate estimates of the number of one-parent families have been described in earlier articles^{1,3,4,5} in which a series of 'best estimates' were made. The 'best estimates' were decided such that they were either consistent with a linear trend in the immediately preceding 'best estimates', or else consistent with a smoothly changing rate of increase.

Table 1 presents the two series of 'best estimates': the number of one-parent families, and the number of dependent children living in them – for each year from 1986. (The number of dependent children living in one-parent families was obtained by multiplying the 'best estimate' of the number of one-parent families by the average number of dependent children per one-parent family, derived from the General Household Survey (GHS.))

USE OF GHS DATA IN BIRTH COHORT ANALYSES

GHS data were available for the most recent 11 years, that is, from 1986 to 1996 inclusive. The sample numbers of children and mothers of each age from each GHS year were rearranged into birth cohort form. As an illustration, consider the earliest GHS year available, 1986, and the sample numbers of children at each age under 16 from it. Those who were aged under 1 in 1986 were assumed to have been born in the same year, 1986; those aged 1 were assumed to have been born in 1985; and so on, up to those aged 15, who were assumed to have been born in 1971. These sample numbers were entered into a matrix showing age – by single year – across the top, and birth year down the side (see Box 1). In particular, data from the 1986 GHS formed a **diagonal** of sample numbers across the matrix. Similarly, corresponding sample numbers from the 1987, 1988, ... 1996 GHS formed parallel successive diagonals across the matrix going from left to right.

Box 1

Illustration of rearranging sample numbers of children by age from each of the GHSs from 1986 to 1996

Birth year of child	Age of child															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1971																86
1972															86	87
1973														86	87	88
1974													86	87	88	89
1975												86	87	88	89	90
1976											86	87	88	89	90	91
1977										86	87	88	89	90	91	92
1978									86	87	88	89	90	91	92	93
1979								86	87	88	89	90	91	92	93	94
1980							86	87	88	89	90	91	92	93	94	95
1981						86	87	88	89	90	91	92	93	94	95	96
1982					86	87	88	89	90	91	92	93	94	95	96	
1983				86	87	88	89	90	91	92	93	94	95	96		
1984			86	87	88	89	90	91	92	93	94	95	96			
1985		86	87	88	89	90	91	92	93	94	95	96				
1986	86	87	88	89	90	91	92	93	94	95	96					
1987	87	88	89	90	91	92	93	94	95	96						
1988	88	89	90	91	92	93	94	95	96							
1989	89	90	91	92	93	94	95	96								
1990	90	91	92	93	94	95	96									
1991	91	92	93	94	95	96										
1992	92	93	94	95	96											
1993	93	94	95	96												
1994	94	95	96													
1995	95	96														
1996	96															

Each cell element shows the GHS year from which the sample number of children of the given age and birth year was extracted.

So, those aged 0 and born in 1986 were taken from the '86 GHS, and those aged 10 and born in 1986 were taken from the '96 GHS, etc

In fact, the birth year was estimated by subtracting the age from the GHS year.

Usually, data from the GHS are considered on a year by year basis, that is, one diagonal at a time; the objective of the present exercise is to explore the data by birth cohort and age, that is, by row and column of the matrix. As may be appreciated from the lozenge shape of the sample numbers in the matrix, when the data are examined in this way, either data for youngest ages are not available or else data for the earlier cohorts are not available. This situation applied equally to birth cohort and age analyses of mothers, as well as of children.

BIRTH COHORT ANALYSIS OF CHILDREN IN ONE-PARENT FAMILIES

An insight into the trends in the prevalence of children affected by lone parenthood may be gained by considering the numbers of children born in different years who were living in one-parent families at different ages. A matrix of the sample numbers of such children was obtained, as was also a corresponding matrix of all dependent children from the 1986 to 1996 GHSs. Grossed up numbers of dependent children in one-parent families, and of all dependent children in families, were then estimated using the 'best estimates' in Table 1, and Child Benefit statistics, respectively. (Essentially the sample numbers along diagonals of the two matrices were used to disaggregate the annual totals.) Finally, the corresponding **proportions** of children living in one-parent families by age and birth year were derived by dividing corresponding cells of the two matrices.

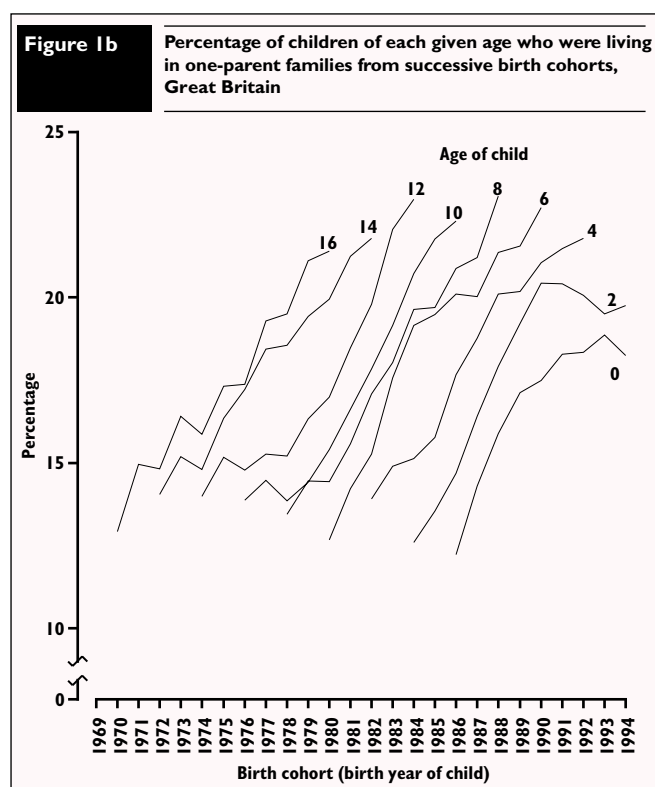
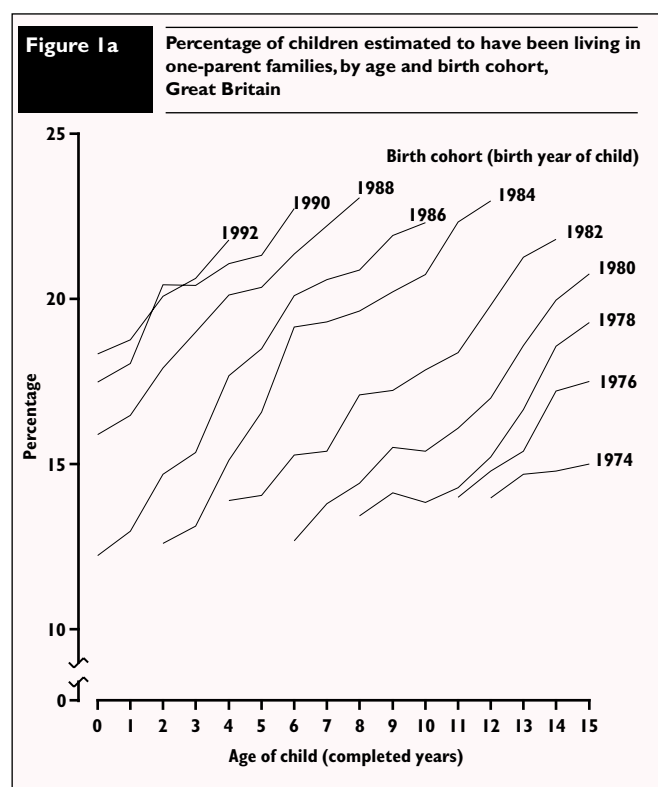
All these operations were carried out including dependent children who were aged from 16 to 18 and undertaking full time education, although for simplicity those aged 16 and over have not been shown in the matrix in Box 1. Some extra technical details about the calculations are provided in Box 2.

The results of this birth cohort analysis are shown in Figure 1a, in which the proportion of children who were living in one-parent families is shown for every other birth cohort of children. The set of proportions for each birth cohort covers 11 separate consecutive ages, the range of 11 years' ages changing from one birth cohort to the next, the results of having a band of GHS data, as explained in Box 1; for details of the averaging process, see Box 2.

A number of features can be seen in Figure 1a. The first, and most notable, is that the proportion of children from a given birth cohort who live in one-parent families generally increases with increasing age of the children. In some respects this is a not unexpected finding, since at the same time as children of a given birth year have become older, the rate of divorce has generally risen, as has also the proportion of births which have taken place outside marriage – both of which factors tend to increase the prevalence of lone parenthood. However, as children from one-parent families become older, their lone parents may either marry or start cohabiting – which will decrease the prevalence of lone parenthood, since they both result in the families concerned ceasing to be one-parent families according to the *Finer* definition².

Table 1	'Best estimates'* of the numbers of one-parent families, OPFs, and their dependent children, 1971-96, Great Britain														Millions
	1971	1976	1981	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	
One-parent families															
OPFs	0.57	0.75	0.90	1.01	1.05	1.09	1.16	1.23	1.30	1.37	1.44	1.51	1.56	1.60	
Dependent children in															
OPFs	1.0	1.3	1.5	1.6	1.7	1.8	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.8	

* estimates for 1995 onwards are provisional



Box 2

Details of the averaging calculations

To reduce sampling variability, GHS sample numbers in the cells of each of the two matrices were averaged such that the number in each cell was replaced by the average of that and the immediately surrounding 8 cells. (Thus, as an example, the sample number of children living in one-parent families who were aged 2 and born in 1990 was replaced by the average of the 9 sample numbers enclosed within the box shown in Box 1.) For cells along the extreme two diagonals – that is, those for 1986 and 1996 – there were only 5 immediately adjacent cells, and so the averages were based on slightly smaller sample sizes (about $\frac{2}{3}$ rds).

In addition, some slight smoothing of the “best estimate” of the number of such children in 1987 was undertaken to avoid the possibility of introducing some spurious variations in the estimates. As a consequence of these two smoothing operations, and also because of the uncertainty in the national estimates, the results should be regarded as tentative, and giving only a broad impression of the likely picture, rather than an accurate representation of it.

The second feature concerns the trend over time; for example, amongst children born in 1980, just over one in 5 were living within a one-parent family when they were aged 15, but this proportion was reached by age 5 amongst children born one decade later, in 1990.

Figure 1b portrays exactly the same set of results, but plotted so that the estimated proportions for children of the same age from successive birth cohorts may be directly compared. It may be seen, for the most part, the proportion of children of each age who were living in a one-parent family has risen between successive birth cohorts. The upper part of Figure 1b indicates that since about 1990 for each group of children aged between about 2 and 10, approximately one in 5 was living in a one-parent family. This result is consistent with the finding that, amongst children born in the early 1980s, about one in 6 had experienced divorce in their family before their twelfth birthday⁶.

BIRTH COHORT ANALYSIS OF LONE MOTHERS

A similar analysis was also undertaken for lone mothers – the details of the calculations involved are described in Box 3. The results from these birth cohort analyses are shown in Figures 2a and 2b. Each line in Figure 2a represents a particular birth cohort of mothers; there are two main features which are notable in this analysis. The first is that, in general, the more recent the birth cohort of mothers, that is, the younger the set of mothers, the larger the proportion who are lone mothers. Furthermore, this finding is in general true at every age of mother. The second result from Figure 2a is the relatively large proportions of young mothers who were lone mothers – over one third of all mothers aged under about 25 from the 1966 and 1968 birth cohorts. Undoubtedly this finding reflects the rapid growth which has occurred since 1980 in the proportion of all births which have taken place outside marriage, many of which are to young women who then became single lone mothers.

Box 3

Details of the calculations performed for lone mothers

Sample GHS numbers of both lone mothers and all mothers with dependent children were extracted for the years 1986 to 1996, inclusive, by single years of the mothers' ages. The sample numbers were rearranged into birth cohort form – as in Box 1 – and then averaged in a similar manner to that described in Box 2.

National estimates of the numbers of lone mothers by single years of mother's age in each calendar year were then made by applying the age profile of lone mothers – derived from the set of averaged GHS sample numbers down a given diagonal – to the estimated total number of lone mothers in the year concerned. (The latter were estimated by applying the proportion of all lone parents who were lone mothers in each year to the corresponding “best estimate” of the number of one-parent families shown in Table 1.)

In similar fashion, the national numbers of all mothers by each year of mother's age in each calendar year were estimated. These estimates were obtained by applying the age profile of all mothers – derived from the set of averaged GHS sample numbers down a given diagonal – to the national number of mothers, estimated from the number of families claiming Child Benefit, and also using GHS data. (GHS data provided annual estimates of the proportions of all families with dependent children in which a mother was present.)

The results of these extractions and calculations yielded two matrices of estimated figures: the national numbers of lone mothers by their age and birth year, and the corresponding national numbers of all mothers with dependent children. The former estimates were then expressed as a percentage of the latter, that is, the proportion of all mothers with dependent children who were lone mothers. These proportions were estimated according to age and birth year of the mother.

As with the birth cohort analysis of children, only a partial picture – 11 years' worth, in fact – of the entire age range of mothers is available for each birth cohort – because over 30 years' of GHS data would be required to portray the full cohort. Nevertheless, a good idea of the patterns of prevalence of lone motherhood can be obtained from the resulting estimates. Indeed, because of the nature of the estimation process, and the uncertainty surrounding the national estimates, the results should be regarded as indicative of the general patterns and trends, rather than providing accurate estimates of them.

Figure 2a

Percentage of mothers with dependent children estimated to have been lone mothers, by age and birth cohort, Great Britain

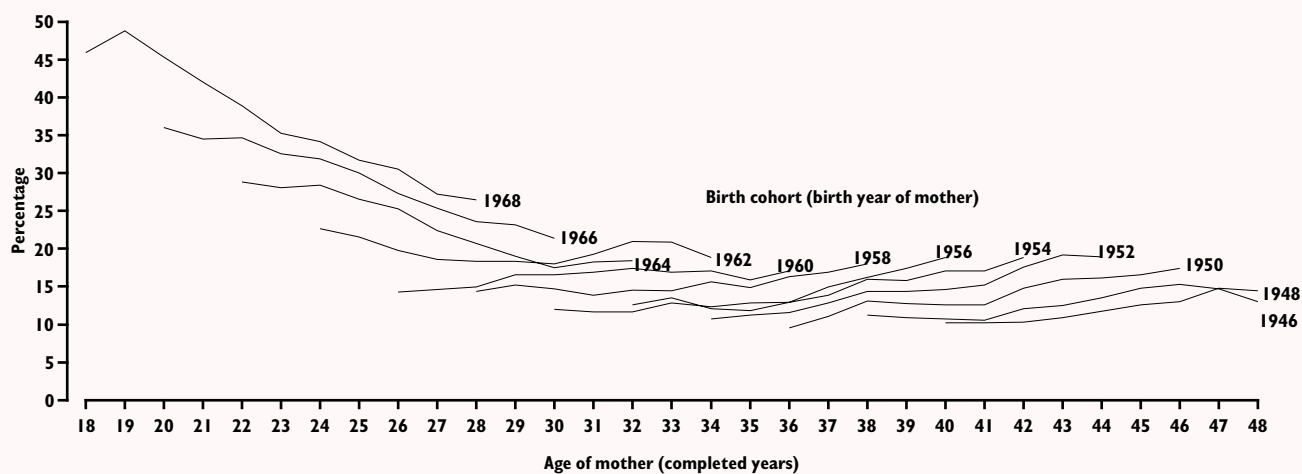
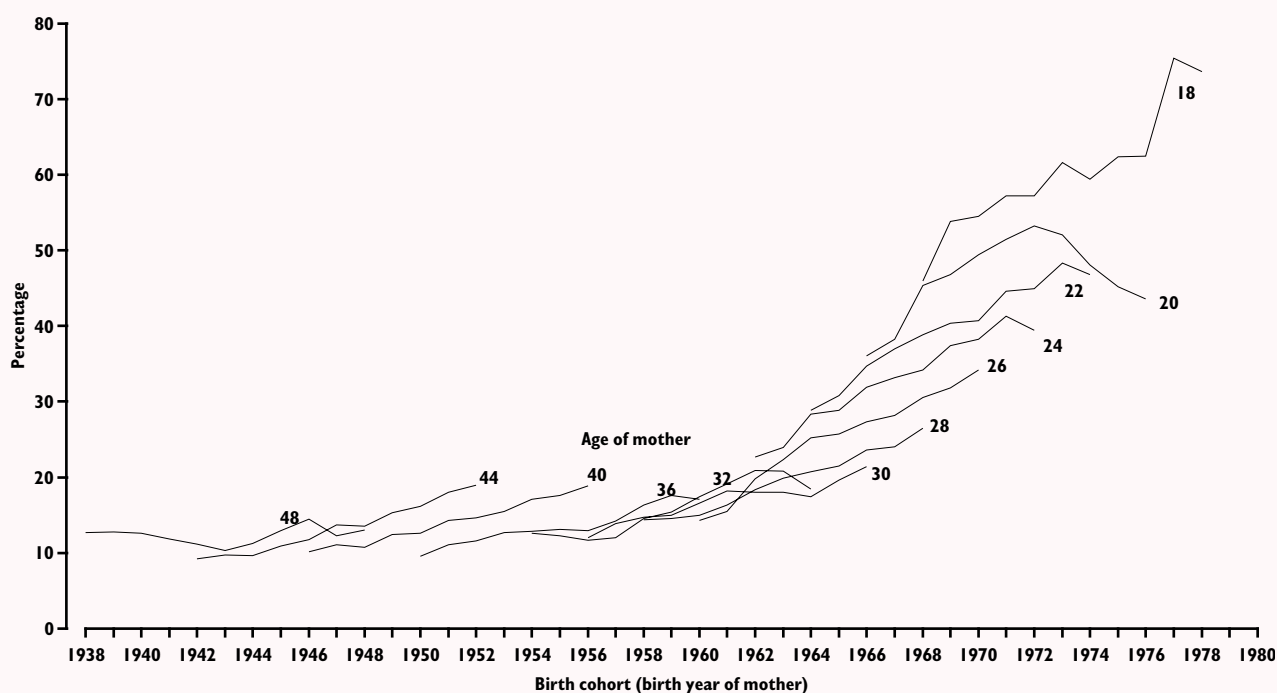


Figure 2b

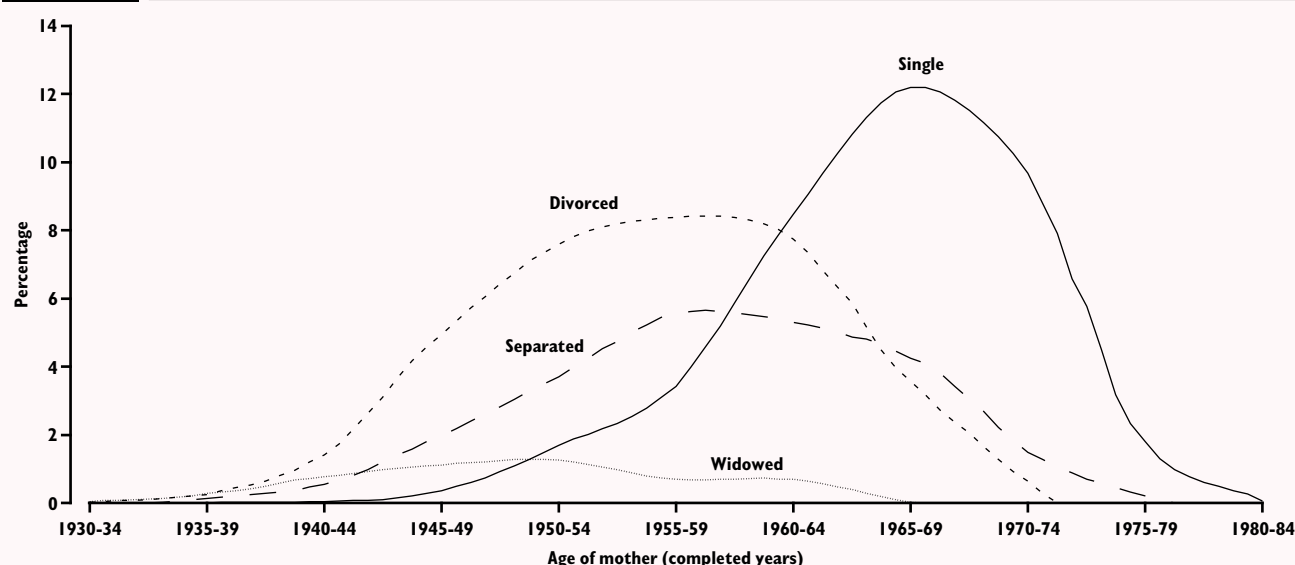
Percentage of mothers with dependent children estimated to have been lone mothers, by birth cohort and age, Great Britain



The same results are portrayed in an alternative way in Figure 2b, where each line represents not a birth cohort of mothers, but a set of mothers of the same age from successive birth cohorts. In general, the graph shows that the younger the mother, the larger the proportion who were lone mothers, and, in addition, the younger the mother the greater has been the increase in the prevalence of lone motherhood over the past decade. Overall, the prevalence of lone motherhood was very similar between mothers who were born in successive years of the 1950s, but really started to increase for mothers who were born in the early 1960s. Amongst teenage mothers born since the late 1960s, around one half were lone mothers.

BIRTH COHORTS OF LONE MOTHERS BY THEIR MARITAL STATUS

It has been well documented^{1,3,4,5} that the age profile of lone mothers varies considerably according to their marital status. Thus, single – never-married – lone mothers tend to be the youngest, followed by separated lone mothers, divorced lone mothers, and widowed lone mothers. It follows that the marital status composition of a particular birth cohort of lone mothers varies according to how recent or distant in the past that birth cohort is; for example, more recent birth cohorts contain proportionately more single lone mothers, and earlier birth cohorts proportionately fewer.

Figure 3
Profile by birth cohort of all lone mothers, by their marital status, 1991–96, Great Britain


Source: General Household Survey

Note: the data have been smoothed; the total area under all 4 graphs is 100, so that the area under any one graph reflects the relative number of lone mothers of that marital status.

This feature is quantified in Figure 3 which depicts for a recent five-year period the profile of all lone mothers according to their birth cohort, separately by their marital status. By this means, the relative numerical importance of lone mothers of each marital status can be appreciated amongst all lone mothers of a given birth cohort. In addition, the overall relative sizes of the four distinct groups of lone mothers can be seen.

Single lone mothers predominate in all birth cohorts since the mid-1960s, whereas divorced, and to a lesser extent, separated lone mothers are by far the most important numerically amongst the birth cohorts of late 1940s, and 1950s. Hence the large proportions of mothers who were lone mothers amongst the later birth cohorts in Figure 2b would largely be single lone mothers, whereas the lower proportions in the centre part of Figure 2b would mostly be divorced and separated lone mothers.

The age of a lone mother, and, more especially, the number and ages of her children, are important factors in whether she decides, or is able, to find a job. The patterns of working of both lone mothers and married mothers with dependent children can be explored using data from the GHS, and time trends in these characteristics are now considered.

WORKING PATTERNS OF LONE MOTHERS AND MARRIED MOTHERS WITH DEPENDENT CHILDREN

The financial position of lone parents in general, and of lone mothers with dependent children in particular, either depends critically upon State Benefits, or alternatively upon the availability of suitable employment and the provision of child care. Figure 4 (left hand side) presents trends in the proportions of lone mothers and married mothers who were working, both full-time and part-time, and also for two important groups of lone mothers – the single and the divorced. All graphs refer to mothers with dependent children.

Overall, the proportion of lone mothers who were working has declined from about 5 in every ten in 1980, to about 4 in every ten in 1995 (Figure 4(a)). Despite this fall, the proportion who were

working part-time has remained virtually constant at about one in 4, whilst the proportion who were working full-time has declined from about one in 5 to one in 6. There was a clear fall in the overall proportion working between 1980 and 1984, almost certainly the result of the recession at that time.

In contrast, the proportion of married mothers who were working has increased, from about one half in the late 1970s, to two thirds in 1995 (Figure 4(c)). There was a small drop in the proportion working between 1980 and 1982, but it was not so large as that observed amongst lone mothers. In contrast to the situation for lone mothers, the proportion of married mothers who were working part-time has been approximately double that of those working full-time, although there has been a slowly widening gap between the proportions of lone mothers who have been working part-time and full-time.

The picture for single lone mothers (Figure 4(e)) contrasts with that for all lone mothers and, particularly, with that for married mothers. Not only did single lone mothers decreasingly work full-time during the 1980s – the proportion fell substantially – but for the past decade roughly equal proportions – about one in 6 – of single lone mothers have been working full-time and part-time. The mid-1980s witnessed an important change in the pattern of working of single lone mothers; before that time more worked full-time than part-time, whilst the reverse was true subsequently.

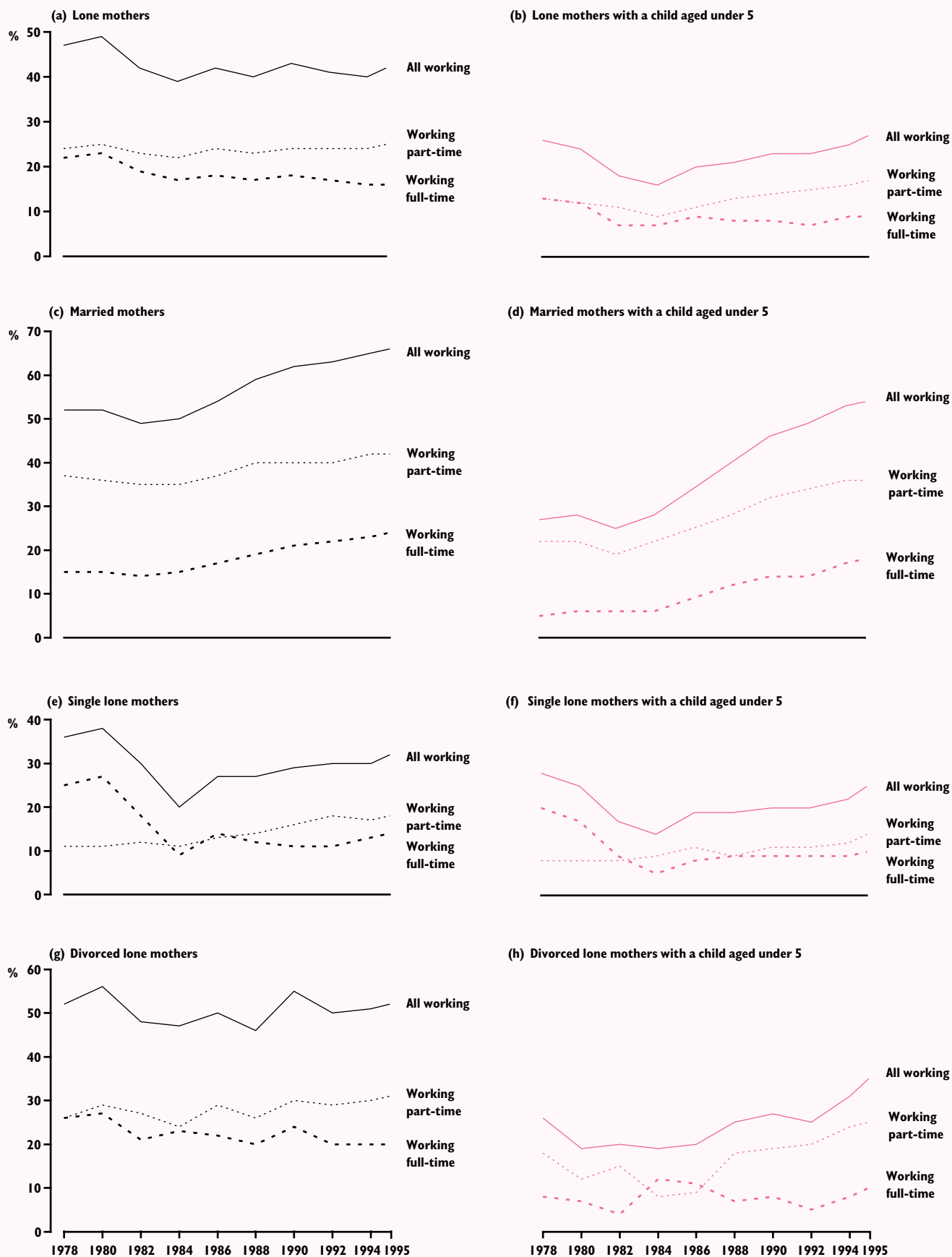
Apart from the late 1970s and early 1980s, when smaller proportions of divorced than single lone mothers were working full-time, relatively more divorced lone mothers have worked both full-time and part-time than single lone mothers (Figure 4(g)). Overall, in 1995, about one in 2 lone divorced mothers were working, compared with fewer than one in 3 single lone mothers.

The right hand side of Figure 4 shows the corresponding trends for a subset of each of the same groups of mothers with dependent children – those whose youngest child was aged under 5. As may be appreciated from the earlier birth cohort analyses of lone mothers, the age profile of lone mothers whose youngest child was aged under 5 would have been predominately youthful. Understandably, the proportions of these latter mothers who were working were

Figure 4

Percentages* of lone mothers and married mothers with dependent children who were working, full-time and part-time, and for those whose youngest child was aged under 5, 1978-95, Great Britain

*estimated – based on 3-year averages



Source: General Household Survey

lower than those with dependent children of any age, and the proportions who were working full-time were proportionately lower than those who were working part-time. Perhaps the most notable feature is the relative lack of change in the proportions working – either full-time or part-time – amongst lone mothers (and single lone mothers in particular), compared with the growth in employment amongst married mothers with a child aged under 5. Undoubtedly these trends have led to a widening gap between the financial circumstances of lone parents and their married counterparts.

CONCLUSIONS

Some distinctive patterns of children living in one-parent families and of lone motherhood have been distinguished, with some substantial differences between birth cohorts and the prevalences at different ages. Whilst the prevalences of lone motherhood at the youngest ages seem especially high, it should be borne in mind that the cohort analyses provide snapshots at each successive age of the mothers involved; at one particular time a mother may be a lone mother, but several years later may well be a married or cohabiting mother. Similarly, although the proportion of children who were living in one-parent families has recently been approaching one in 4 for certain subgroups of children, it does not necessarily follow that all such children will spend their entire childhood living in a one-parent family.

Nevertheless, the analyses presented in this article do indicate that the proportions of mothers who have **ever** been lone mothers have risen considerably for successive birth cohorts since the 1960s. Similarly, the proportion of children who have lived in a one-parent family at some stage of their childhood years has increased steadily for successive birth cohorts.

References

- 1 John Haskey. One-parent families and their dependent children in Great Britain. *Population Trends* **91**. The Stationery Office (1998) pp. 5-14.
- 2 Department of Health and Social Security. *Report of the Committee on One-parent families (10 per cent) Great Britain*. (Chairman: The Hon. Sir Morris Finer), Vols. 1 and 2. HMSO (1974).
- 3 John Haskey. Estimated numbers of one-parent families and their prevalence in Great Britain in 1991. *Population Trends* **78** HMSO (1994) pp. 5-19.
- 4 John Haskey. Trends in the numbers of one-parent families in Great Britain. *Population Trends* **71**. HMSO (1993) pp. 26-33.
- 5 John Haskey. Estimated numbers and demographic characteristics of one-parent families in Great Britain. *Population Trends* **65**. HMSO (1991) pp. 35-43.
- 6 John Haskey. Children who experience divorce in their family. *Population Trends* **87**. The Stationery Office (1997) pp.5-10.

Endnote: A range of papers on lone parenthood presented at a conference have recently been published in a book entitled: *Private lives and public responses: lone parenthood and future policy in the UK* (Policy Studies Institute/University of Bath, 1998). The conference and publication were jointly funded by the Joseph Rowntree Foundation and the Department of Social Security.

Dementia in people aged 65 years and older: a growing problem?

Liz Kirby, Petra Lehmann and Azeem Majeed,
Demography and Health,
ONS

This study examines trends in death rates from dementias and neurodegenerative disorders in people aged 65 and over in England and Wales between 1979 and 1996. In total, there were 171,590 deaths from dementias and neurodegenerative disorders, with the number of deaths per year increasing from 3,021 in 1979 to 10,415 in 1996. Age-standardised death rates for all diagnoses combined increased from 39 to 96 per 100,000 for men and from 45 to 101 for women between 1979 and 1996. The most dramatic increase was seen in death rates from Alzheimer's disease which increased from less than 1 per 100,000 in 1979 to 19 for men and 21 for women in 1996.

INTRODUCTION

Because of the increasing number of elderly people in most countries, the health of the elderly is becoming an important public health issue.¹ One of the more common disorders that affects elderly people is dementia (Box 1),² a condition in which there is disturbance of intellectual functions, including memory, thought processes, orientation, comprehension, learning capacity, language and judgement.³ Dementia can also affect personality and behaviour, leading to problems such as neglect of personal care and hygiene, incontinence, emotional instability, and loss of social inhibitions.⁴ Patients with dementia often have complex health needs, and can impose a considerable burden on carers as well as on health and social services.

The prevalence of dementia is strongly associated with age. Some degree of dementia is present in about 5% of people aged 65 years and over and more than 20% of those over 80 years of age.⁵ Because of the increasing number of elderly people in the population, and the subsequent increase in the number of people suffering from dementia, some important public health issues can be identified. Primary care and community services will have to care for more patients with dementia in the community. Hospitals will find that more of the patients they admit with acute medical problems will also suffer from dementia or from lesser degrees of cognitive impairment.

To help meet these challenges, information is required on the number of people with dementia in the population, on their likely needs for health and social care, and how these may change in future years. In this paper, we examine one aspect of the burden of dementia on the health of the population, death rates from dementias and neurodegenerative disorders in people aged 65 years and over. Dementia in younger patients has very different causes to

Box 1

Definition of dementia

Dementia is the global impairment of higher cortical functions, including memory, the capacity to solve the problems of day-to-day living, the performance of learned perceptuo-motor skills, the correct use of social skills and the control of emotional reactions, in the absence of gross clouding of consciousness. The condition is often irreversible and progressive.

Source: Royal College of Physicians of London²

that in older patients, with different implications for health and society. Mortality from dementia and neurodegenerative disorders in younger people is examined separately.⁶

METHODS

The number of deaths were obtained for selected dementias and neurodegenerative disorders from data held by the Office for National Statistics, in people aged 65-69, 70-74, 75-79, 80-84 and 85 years and over for residents of England and Wales in the 18 year period 1979 to 1996. The causes of death selected and their respective codes in the ninth revision of the International Classification of Diseases, (ICD9) are shown in Box 2. 1979 was chosen as the start date because this was the first year that ICD9, as opposed to ICD8, was used to code the causes of death given on death certificates.

Box 2

Dementias and neurodegenerative disorders: preferred terms and their corresponding codes in the ninth revision of the International Classification of Diseases (ICD9).

Group 1. Senile & presenile organic psychotic conditions

290.0	Senile dementia, simple type
290.1	Presenile dementia
290.2	Senile dementia, depressed or paranoid type
290.3	Senile dementia with acute confusional state
290.4	Arteriosclerotic dementia
290.8	Senile dementia, other
290.9	Senile dementia, unspecified
331.2	Senile degeneration of the brain

Group 2. Alzheimer's disease

331.0	Alzheimer's disease
-------	---------------------

Group 3. Other dementias and neurodegenerative disorders

046	Slow virus infection of central nervous system
046.1	Creutzfeldt-Jakob disease
046.2	Subacute sclerosing panencephalitis
046.3	Progressive multifocal leucoencephalopathy
046.8	Other
046.9	Unspecified

298	Other non-organic psychoses
298.9	Unspecified psychosis

323	Encephalitis, myelitis and encephalomyelitis
323.5	Encephalitis following immunization procedures

323.8	Encephalitis, myelitis and encephalomyelitis, other
323.9	Encephalitis, myelitis and encephalomyelitis, unspecified
331	Other cerebral degenerations
331.1	Pick's disease
331.3	Communicating hydrocephalus
331.4	Obstructive hydrocephalus
331.8	Other cerebral degeneration
331.9	Other cerebral degeneration, unspecified
333	Other extrapyramidal disease and abnormal movement disorders
333.0	Other degenerative diseases of the basal ganglia
333.1	Essential and other specified forms of tremor
333.2	Myoclonus
333.3	Tics of organic origin
333.4	Huntington's chorea
333.5	Other choreas
333.6	Idiopathic torsion dystonia
333.7	Symptomatic torsion dystonia
333.8	Fragments of torsion dystonia
333.9	Other and unspecified
334	Spinocerebellar disease
334.0	Friedreich's ataxia
334.1	Hereditary spastic paraplegia
334.2	Primary cerebellar degeneration
334.3	Other cerebellar ataxia
334.4	Cerebellar ataxia in diseases classified elsewhere
334.8	Other
334.9	Unspecified

Table 1 Age- and sex-specific mortality rates per 100,000 from dementia and other neurodegenerative disorders in the elderly, England and Wales, 1979–1996

Year	Age Group											
	65-69		70-74		75-79		80-84		85 and over		65 and over*	
	M	F	M	F	M	F	M	F	M	F	M	F
1979	9	8	46	16	46	37	76	93	171	242	39	45
1980	10	8	40	16	40	43	84	91	188	233	41	45
1981	9	8	43	17	43	40	88	104	206	263	43	48
1982	8	6	43	20	43	45	98	112	208	285	44	52
1983	9	8	49	20	49	46	103	120	251	309	50	56
1984†	21	18	138	40	138	111	294	269	637	750	131	130
1985	25	18	153	45	153	120	347	296	724	818	150	142
1986	22	18	145	45	145	125	359	308	663	830	142	145
1987	20	17	151	46	151	119	342	311	657	810	140	142
1988	21	18	155	48	155	123	354	307	749	860	151	148
1989	21	20	153	48	153	131	345	324	793	895	154	155
1990	21	18	147	50	147	130	351	322	755	846	148	150
1991	23	19	142	47	142	132	351	307	773	882	150	152
1992	21	17	139	39	139	124	339	303	781	829	147	142
1993†	14	10	76	25	76	73	182	179	428	527	82	88
1994	14	11	83	27	83	77	183	187	434	524	85	90
1995	15	12	85	29	85	84	219	200	507	604	97	101
1996	15	12	89	30	89	83	212	222	503	587	96	101

* Age-standardised to the European standard population.

† Highlights the changes in coding practice for underlying causes of death on death certificates (see methods section).

The annual numbers of deaths in each age group were used with population estimates for the respective year to calculate age-sex specific death rates for each cause of death between 1979 and 1996. Direct age-standardisation to the European standard population was used to adjust for any differences in overall mortality rates that may have arisen simply as a result of changes in the age structure of the population between 1979 and 1996. To simplify the presentation of the results, causes of death were grouped into three main categories: senile & presenile organic psychotic conditions (ICD9 290 & 331.2); Alzheimer's disease (331.0); all other dementias and neurodegenerative disorders. Population figures for England and Wales for 1996 were also used with estimates of the prevalence of dementia from the EURODEM study⁵ to estimate the number of people with dementia currently living in England and Wales.

In 1984, the Office of Population Censuses and Surveys (now the Office for National Statistics) introduced a change in the rules used by coders to select the underlying cause of death for mortality statistics from the various causes of death recorded on a death certificate. In 1993, an automated coding system was introduced which incorporated a reversal of this rule change. These changes in coding practice alone led to changes in death rates for a number of conditions.⁷ For example, the change introduced in 1984 led to an apparent increase in deaths from neurological conditions, while the change introduced in 1993 led to an apparent decrease. For this reason, any changes in death rates between 1983 and 1984, and between 1992 and 1993, have to be interpreted cautiously.

RESULTS

Senile and pre-senile dementias

There were 123,419 deaths from senile dementia between 1979 and 1996, with the number of deaths per year increasing more than two-fold from 2,416 in 1979 to 6,547 in 1996. Age-standardised death rates increased by a smaller amount during the same period, from 31 to 58 per 100,000 for men at ages 65 and over and from 36 to 63 for women (Figure 1). Death rates for both men and women

decreased between 1984 and 1992, before beginning to increase again in 1993. Women had slightly higher death rates than men for most of the study period but sex differences in death rates were generally not very large.

Alzheimer's disease

There were 15,459 deaths from Alzheimer's disease between 1979 and 1996, with the number of deaths per year increasing more than 100-fold from just 17 in 1979 to 2,082 in 1996. Age-standardised death rates from Alzheimer's disease at aged 65 and over were less than 1 per 100,000 until 1983, after which death rates began to increase rapidly (Figure 2). From 1984 to 1992, death rates increased from 3 to 21 per 100,000 for men and from 3 to 20 for women. Changes in coding practice led to a decrease in death rates

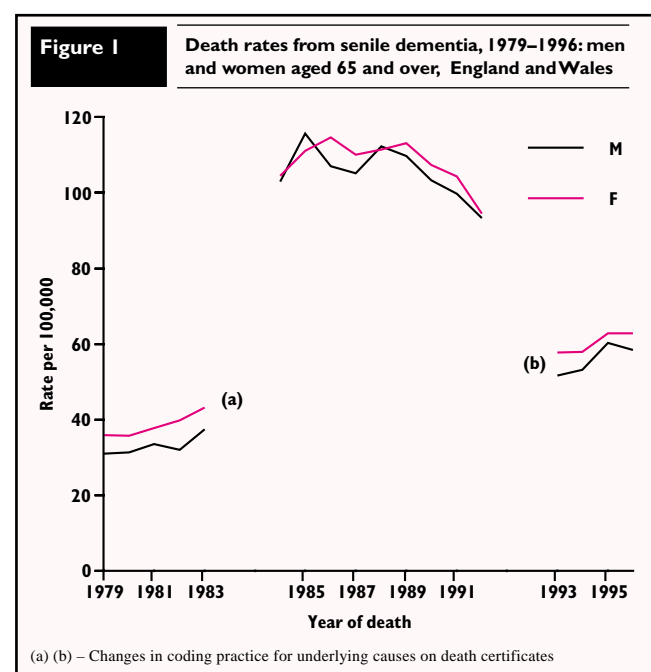
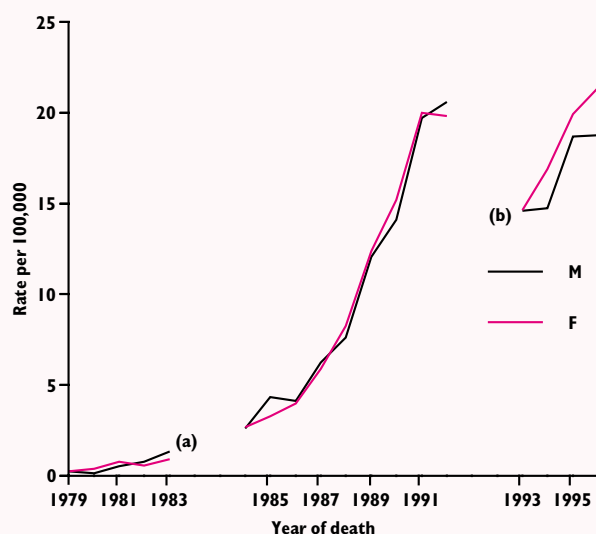


Figure 2

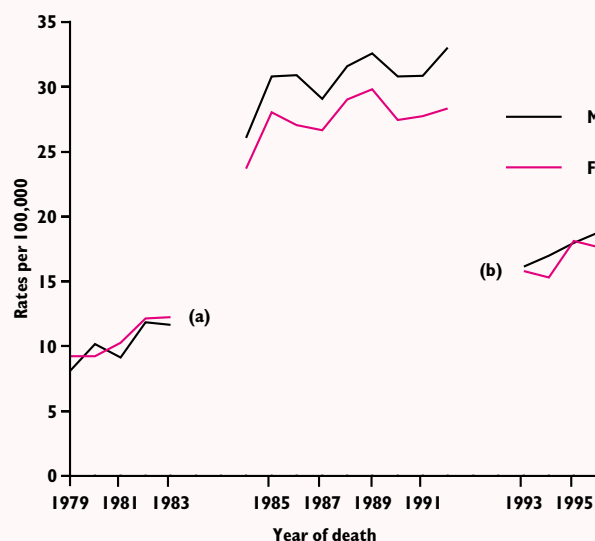
Death rates from Alzheimer's disease, 1979–1996: men and women aged 65 and over, England and Wales



(a) (b) – Changes in coding practice for underlying causes on death certificates

Figure 3

Death rates from other dementias and neurodegenerative disorders, 1979–1996: men and women aged 65 and over, England and Wales



(a) (b) – Changes in coding practice for underlying causes on death certificates

between 1992 and 1993, but rates then continued to increase between 1993 and 1996, from 15 to 19 for men and from 15 to 21 for women. For the most of the study period, there were only very minor differences in death rates from Alzheimer's disease between men and women but from 1994 onwards, death rates were higher for women than for men.

Other dementias and neurodegenerative disorders

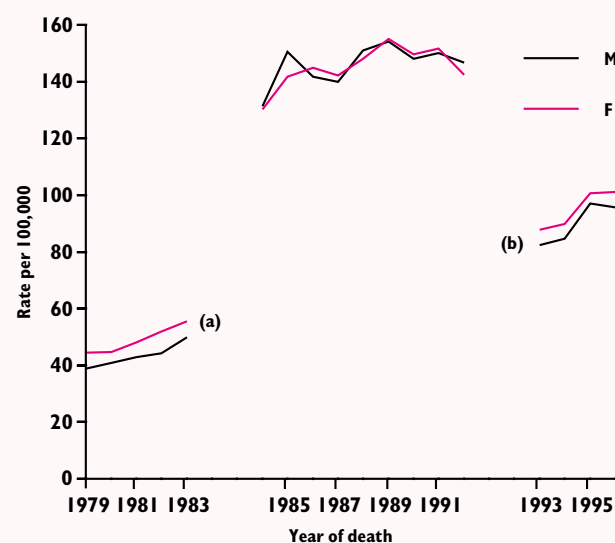
There were 33,316 deaths from the other selected dementias and neurodegenerative disorders between 1979 and 1996, with the annual number of deaths increasing three-fold from 635 in 1979 to 1,826 in 1996. Between 1979 and 1996 age-standardised death rates increased from 8 to 19 per 100,000 for men and from 9 to 18 for women (Figure 3). Except between 1984 and 1992, when death rates were higher for men than for women, death rates from these remaining conditions were very similar for men and women.

All dementias and neurodegenerative disorders combined

There were 171,590 deaths from all the dementias and neurodegenerative disorders between 1979 and 1996, with the number of deaths per year increasing from 3,021 in 1979 to 10,415 in 1996. Between 1979 and 1996, age-standardised death rates increased from 39 to 96 per 100,000 for men and from 45 to 101 for women (Figure 4). The very large increase in 1984 and the corresponding large fall in 1993 were both due to changes in coding practice. Age and sex specific death rates for all diagnoses combined between 1979 and 1996 are shown in Table 1. Death rates from dementias and neurodegenerative disorders rise substantially with age. In 1996, mortality at aged 85 and over was 33 times higher than at age 65–69 years for men, and 48 times higher for women. All age groups experienced an increase in death rates between 1979 and 1996 with the largest absolute and relative increases seen in people aged 75 years and over.

Figure 4

Death rates from all dementia and neurodegenerative disorders, 1979–1996: men and women aged 65 and over, England and Wales



(a) (b) – Changes in coding practice for underlying causes on death certificates

Estimated number of people with dementia

The estimated numbers of people with dementia living in England and Wales in 1996, derived from the EURODEM study, are shown in Table 2. In total, about 665,000 people were expected to be suffering from significant dementia, a figure substantially greater than the 10,415 deaths certified as due to dementia and neurodegenerative disorders in the same year. Because there are more women than men in the population at this age, about twice as many women as men suffer from dementia even though the prevalence of the condition is similar in the two groups. As the number of very elderly people in the population continues to increase, we are likely to see a further increase in the total number of people with dementia.

Table 2		Estimated number of people with dementia, England and Wales, 1996					
Age group (years)	Prevalence (%)	* Population of England and Wales 1996		Estimated no. of people suffering from dementia in England and Wales 1996			Persons
		Men	Women	Men	Women	Persons	
65-69	2.2	1.1	1,104,800	1,238,100	24,306	13,619	37,925
70-74	4.6	3.9	954,500	1,192,400	43,907	46,504	90,411
75-79	5.0	6.7	657,600	973,100	32,880	65,198	98,078
80-84	12.1	13.5	408,700	760,100	49,453	102,614	152,067
85 and over	27.4	30.3	248,900	720,700	68,199	218,372	286,571
All ages 65 and over	-	-	3,374,500	4,884,400	218,745	446,307	665,052

* Source: Hofman A, Rocca A, Brayne C et al.⁵

DISCUSSION

Age-standardised death rates from dementias and neurodegenerative disorders in people aged 65 and over in England and Wales more than doubled between 1979 and 1996. The most dramatic increase was seen in deaths from Alzheimer's disease, which by 1996 was recorded as the underlying cause of death in over 2,000 people, compared with just 17 deaths in 1979. This increase in the number of deaths from Alzheimer's disease will have occurred as a result of the increasing number of elderly people in the population and to changes in the clinical diagnoses made by doctors at the time of patients' deaths. Although Alzheimer's disease was first reported in 1905, it was initially thought to be a very rare condition, and for several decades was not given very much space in medical or neurology textbooks. The neuropathological features of Alzheimer's disease had been long established but it was only in the 1960s that these features were also shown to be present in many patients previously classified as having senile dementia.⁸

Over the next decade, Alzheimer's disease became acknowledged as one of the major causes of dementia and was allocated its own four-digit code when the ninth revision of the International Classification of Diseases was introduced in 1979 (under the eighth revision, it was included with pre-senile dementia). However, although Alzheimer's disease became an increasingly used clinical diagnosis, it was not until the mid 1980s, eighty years after it was first described, that it began to be recorded as a common underlying cause of death in England and Wales. Mortality attributed specifically to Alzheimer's disease began to increase earlier in the USA than in England and Wales, from 1,728 deaths in 1979 to 26,325 deaths in 1987.⁹ The more rapid increase in the USA may reflect differences in the two health care systems, as a definitive diagnosis of Alzheimer's disease can only be made after neuropathological examination of brain samples. The American health care system, with its greater use of invasive and high technology investigations, may result in more people with dementia receiving a diagnosis of Alzheimer's disease.

Death rates from senile and pre-senile dementias and from other neurodegenerative disorders also increased between 1979 and 1996, although less dramatically than for Alzheimer's disease. There was a decrease in death rates from senile and pre-senile dementias between 1984 and 1992, but this decrease occurred at a time when death rates from Alzheimer's disease were increasing rapidly, and is probably a result of diagnostic transfer rather than a true decrease in death rates. Senile and pre-senile dementias still remain more common than Alzheimer's disease as an underlying cause of death, in contrast to the results of most prevalence

surveys, which have generally concluded that Alzheimer's disease is the cause of between 50-70% of all cases of dementia.^{10 11} This suggests that many cases of Alzheimer's disease are being misclassified at death as cases of senile dementia. Technically, dementia is a syndrome (a grouping of symptoms) and not a disease in its own right, as many different diseases and disorders can lead to dementia.¹² Perhaps the use on death certificates of non-specific terms such as senile or pre-senile dementia should be discouraged and instead, doctors should be encouraged to use more precise diagnoses such as Alzheimer's disease? However, the clinical diagnosis made during life in patients with dementia is often found to be inaccurate once the results of post-mortem become available.¹³ As most older patients dying of a dementing illness do not undergo post-mortem examination,¹⁴ death certification in the elderly is likely to remain imprecise.

It is difficult to draw conclusions about trends over time in the incidence of dementia from mortality data. Age and sex-specific death rates increased between 1979 and 1996, but it is not clear whether this was due to a true increase in incidence, or to greater recording of dementias and neurodegenerative disorders on death certificates by doctors, or to a combination of both. Awareness of dementia amongst health professionals would have increased between 1979 and 1996, as would the diagnostic technology available.¹⁵ Doctors may be making the diagnosis of dementia more frequently now than in the past, even if the incidence of dementia remains unchanged. An important limitation of this study in interpreting trends in dementia has been the two major changes in the rules used to select the underlying cause of death from the various causes given on the death certificate. These changes occurred in 1984 and 1993, and because of them, it is difficult to interpret changes in death rates between 1983-1984 and 1992-1993. Since 1993, all causes of death listed on the death certificate have been recorded on the mortality file held by the Office for National Statistics. This should allow analysis of deaths by other conditions mentioned on the death certificate as well as by the underlying cause of death.

Death rates will greatly under-estimate the burden of disease caused by chronic diseases such as dementia. Previous cohort studies suggest that only about one-quarter of patients diagnosed with dementia during life have dementia recorded as the underlying cause of death on their death certificate.^{16 17 18} Hence, it is likely that patients for whom dementia is later given as the underlying cause of death are the most severely affected group, representing only the 'tip of the iceberg' of dementia sufferers. Prevalence data could potentially provide a better estimate of the burden of disease from dementia, but prevalence surveys are expensive and difficult to carry out. Another major limitation of prevalence surveys is that different diagnostic criteria can give very different estimates of prevalence. For example, in one recent American study, the prevalence of dementia in people aged 65 years and over varied from 3% to 29% depending on the diagnostic criteria used.¹⁹ When we used one of the widely accepted estimates of the prevalence of dementia,⁵ we calculated that there were about 665,000 people aged 65 years and over with significant dementia in England and Wales in 1996.

The number of elderly people in England and Wales will continue to increase in the future, leading to a further increase in the number of people suffering from dementia. This in turn will have important implications for carers, and for health and social services. Hence, the impact of dementia on the morbidity and mortality of the population should continue to be monitored. Monitoring trends in death rates from dementias and neurodegenerative disorders will be an important part of this process.

Key Findings

- Age-standardised death rates from dementias and neurodegenerative disorders for people aged 65 and over in England and Wales more than doubled between 1979 and 1996.
- The most dramatic increase was seen in deaths from Alzheimer's disease which by 1996 was recorded as the underlying cause of death in over 2,000 people, compared with just 17 deaths in 1979.
- It is estimated that in 1996, about 665,000 people aged 65 years and over in England and Wales were suffering from significant dementia.
- The number of elderly people in England and Wales will continue to increase in the future, leading to a further increase in the number of people suffering from dementia. This in turn will have important implications for the number of carers needed, and for health and social services.

ACKNOWLEDGEMENTS:

We thank Dr James Ironside and Dr Richard Knight for their help in compiling the list of ICD9 codes used in this study, and Professor Michel Coleman for his comments on the manuscript.

Funding: Department of Health and Medical Research Council

References

- Greengross S, Murphy E, Quam L, Rochon P, Smith R. Aging: a subject that must be at the top of world agendas. *BMJ* 1997; 315: 1029-30.
- Royal College of Physicians of London, Committee on Geriatrics. Organic mental impairment in the elderly. Implications for research, education and the provision of services. *Journal of the Royal College of Physicians of London*. 1981; 15: 141-67.
- Jorm A. *Understanding Senile Dementia* London: Croom Helm, 1987.
- Donaldson R, Donaldson L. *Essential Public Health Medicine*. London: Kluwer Academic Publishers, 1994.
- Hofman A, Rocca A, Brayne C et al The prevalence of dementia in Europe: A collaborative study of 1980-1990 findings. *International Journal of Epidemiology* 1991; 20: 736-49.
- Majeed FA, Lehmann P, Kirby L, Coleman M. Death rates from dementias and neurodegenerative disorders in people aged 15-64 in England and Wales, 1979 to 1996. *BMJ* 1998. (In press).
- Rooney C, Devis T. Mortality trends by cause of death in England and Wales 1980-94: the impact of introducing automated cause coding and related changes in 1993. *Population Trends* 1996; 86: 29-35.
- Rossor M, Fox N, Freeborough P, Harvey R. Clinical features of sporadic and familial Alzheimer's disease *Neurodegeneration* 1996; 5: 393-7.
- Centers for Disease Control. Mortality from Alzheimer's disease - United States, 1979-1987. *MMWR* 1990; 39: 785-8.
- Gelacher D, Whitehouse P. Evaluation of dementia. *New England Journal of Medicine* 1996; 335: 330-6.
- Weatherall D, Ledingham J, Warrell D (Eds.). *Oxford Textbook of Medicine, 3rd Edition*. Oxford: Oxford University Press, 1996.
- Rossor M. Dementia. *British Journal of Hospital Medicine* 1987; July: 46-50.
- Homer AC, Honaver M, Lantos PL, Hastie IR, Kellett JM, Millard PH. Diagnosing dementia: Do we get it right? *BMJ* 1988; 297: 894-6.
- Aylin P, Rooney C, Drever F, Coleman M. Increasing mortality from Creutzfeldt-Jakob disease in England and Wales since 1979; ascertainment bias from increase in post-mortems? *Population Trends* 1996; 85: 34-8.
- Kellett JM. How far to investigate dementia? *Postgraduate Medical Journal* 1987; 63: 963-6.
- Olichney J, Hofstetter C, Galasko D, Thal L, Katzman R. Death certificate reporting of dementia and mortality in an Alzheimer's disease research center cohort. *Journal of the American Geriatrics Society* 1995; 43: 890-3.
- Forbes W, Gentleman J, Park E. Dementia and age at death. *Experimental Gerontology* 1995; 30: 445-53.
- Martyn C, Pippard E. Usefulness of mortality data in determining the geography and time trends in dementia. *Journal of Epidemiology and Community Health* 1988; 42: 134-7.
- Erkinjuntti T, Ostbye T, Steenhuis R, Hachinski V. The effect of different diagnostic criteria on the prevalence of dementia. *New England Journal of Medicine* 1997; 337: 1667-74.

Trends in suicide in England and Wales, 1982-96

Sue Kelly and Julia Bunting
Demography and Health,
ONS

This article, the first of two, updates previous analyses of suicides published in *Population Trends*. Suicide trends in England and Wales are analysed by age and sex. Analyses by method and occupation suggest a link between suicide rates and easy access to effective means of committing suicide. The steadily growing number of cars with catalytic converters may go some way to explain the decreasing suicide rates from 'other gas poisoning' for both men and women since the early 1990s. Indeed, it may also explain to some extent the decline in overall suicide rates for men since this time.

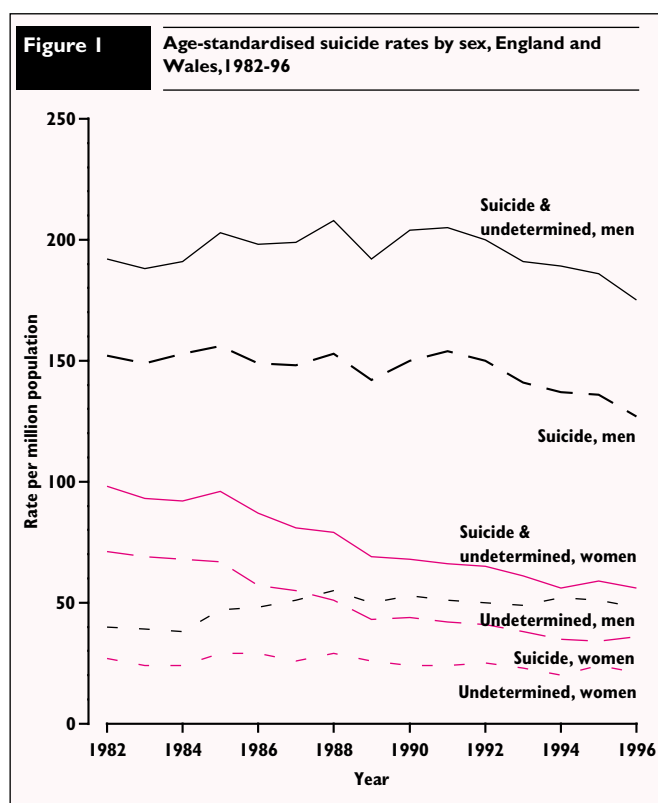
INTRODUCTION

This article describes trends in suicide in England and Wales from 1982 to 1996. It updates three previous *Population Trends* articles^{1,2,3}, which presented analyses up to 1990/1992. We present findings by age, sex, method of suicide and occupation. We also consider trends in factors associated with an increased risk of suicide. These include: marital status, drug and alcohol misuse, imprisonment, and AIDS.

Although suicide and undetermined deaths accounted for only 1.4 per cent of all male deaths and 0.4 per cent of female deaths in 1996, they are significant among premature deaths. They accounted for 9.5 and 4.4 per cent of years of life lost between the ages of 15 and 64 among men and women, respectively.

DEFINITIONS

In this article 'suicides' refers to 'suicides and deaths from injury and poisoning undetermined whether accidentally or purposely inflicted'. This corresponds to codes E950-E959 and E980-E989, excluding E988.8, of the International Classification of Diseases Ninth Revision (ICD9)⁴. As explained in one of the earlier articles¹, it is likely that most undetermined deaths (open verdicts) among adults are cases where the harm was self-inflicted but there was insufficient evidence to prove that the deceased deliberately intended to kill themselves. The code E988.8 is excluded because, since 1979 in England and Wales, it has been used, although not exclusively, to accelerate the death registration in the case where a coroner adjourns an inquest⁵. Nearly all these cases that are resolved turn out to be homicide.



In using this broader definition of suicide, we have restricted our analyses to those aged 15 and over. However, in the next section on gender and in two sections on teenage suicides we consider suicide verdicts and undetermined deaths as distinct categories.

All annual data analysed in this article relate to the year in which the suicide occurred. For this reason, data for years prior to 1993 will not correspond exactly to figures published in OPCS/ONS annual reference volumes at the time. Before 1993 these volumes were based on year of registration⁶. Even figures for 1993–96 may differ very slightly, as every effort has been made to include as many valid records as possible from the ONS mortality database. We may therefore have included some deaths here which were registered too late to be included in the annual reference volumes. The standard datasets for these volumes are now extracted nine months after the end of the data year.

Age-standardised suicide rates presented in this article have been directly standardised to the European standard population⁷ aged 15 and over.

GENDER

The earlier analyses¹ showed that suicide trends for men and women followed the same pattern from 1911 until the early 1980s.

In 1982, in England and Wales, there were a total 5,655 suicides. By 1996 the number had fallen to 4,872. For men, there were 3,557 suicides in 1982, rising to a peak of 4,119 in 1988, and then falling back to 3,640 in 1996. In 1982 suicides amongst men accounted for 63 per cent of all suicides. For women, the number of suicides fell continuously from 2,098 in 1982, to 1,232 in 1996. By 1996, suicides amongst women accounted for just one quarter of all suicides.

Allowing for changes over time in the age structure of the population, the age-standardised suicide rate for men decreased from 191 per million in 1982, to 174 per million in 1996. This represented a fall of 9 per cent. The rate had, however, peaked at 207 per million in 1988. For women, the age-standardised suicide rate decreased steadily from 98 per million in 1982, to 56 per million in 1996, a fall of 43 per cent. Figure 1 shows trends in overall age-standardised suicide rates for men and women. It also shows corresponding trends for suicide verdicts and open verdicts separately.

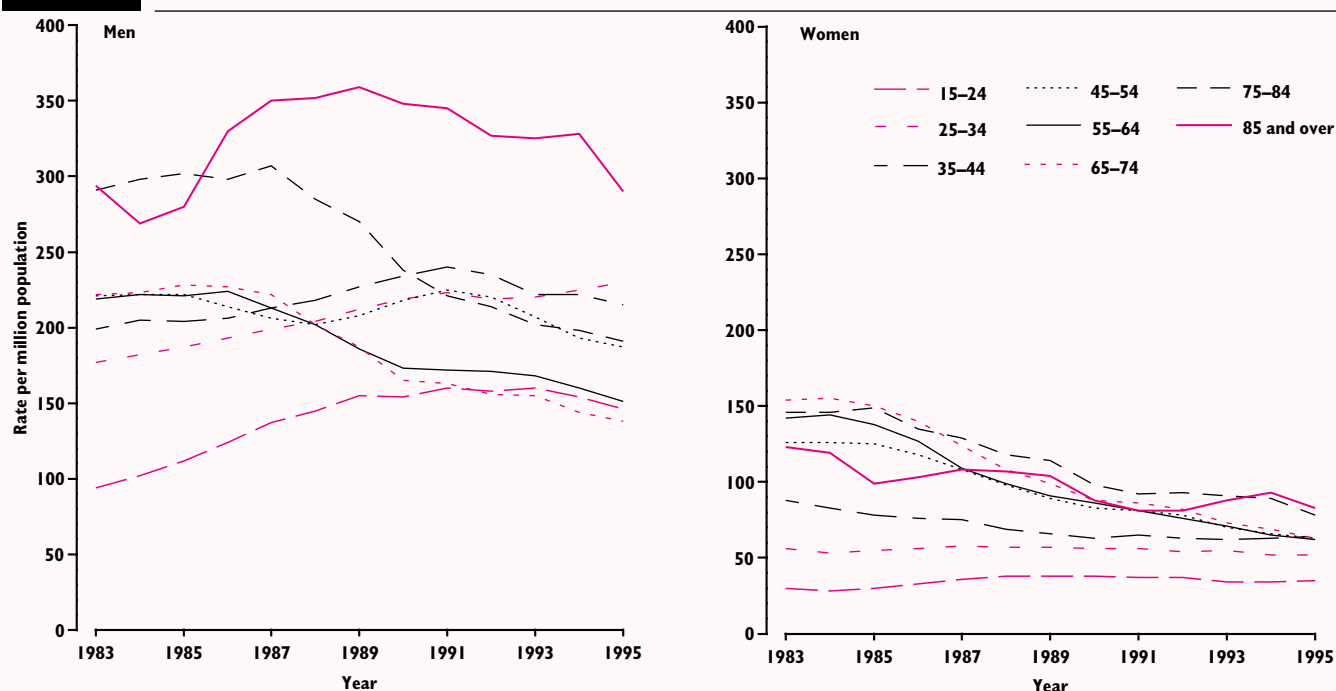
AGE

Our earlier analyses¹ also showed a striking convergence in age-specific suicide rates between 1946 and 1990. Figure 2 shows trends in age-specific suicide rates for men and women. These are presented in 10-year age-groups and on a 3-year moving average basis. For the three years centred on 1983, the highest suicide rates for men were in the oldest age-groups (age 45 and over). However, between 1983 and 1995, suicide rates for men decreased by between 30 and 40 per cent in the age-groups 55–64, 65–74 and 75–84. The rate for the 45–54 age-group fell by 15 per cent over the same period. Rates in the 25–34 age-group rose steadily, from 177 per million in 1983 to 230 per million in 1995, an increase of 30 per cent. This age-group now has the highest suicide rate for men outside the open-ended age-group of 85 and over. Rates in the age-groups 15–24 and 35–44 increased from 1983 to reach a peak in 1991. Since then the rates have fallen by about 10 per cent in each age-group. However, in 1995, the rate for the 15–24 age-group was 55 per cent higher than in 1983, at 150 per million. The rate for the 35–44 age-group was 8 per cent above its 1983 value, at 215 per million. These results only partly bear out the expectations of our earlier cohort analysis¹, that suicide rates in the under 45s may continue to rise for some years to come.

For women, between 1983 and 1995, suicide rates fell in all age-groups except for those aged 15–24. However, the falls were much more dramatic in the older age-groups. For women aged between 45 and 84, rates fell by between 45 and 60 per cent. In the 35–44 age-group, rates decreased by 27 per cent between 1983 and 1995, from 88 per million to 64 per million. Rates in the 25–34 age-group fell by 6 per cent, whilst in the 15–24 age-group rates rose by 16 per cent. This youngest age-group of women still has by far the lowest suicide rate, at 35 per million in 1995.

Teenage suicides

Amongst those aged under 20, a higher proportion of 'suicide and undetermined' deaths are in the undetermined category than for adults (39 per cent compared to 24 per cent for males, and 47 per cent compared to 33 per cent for females, over the period 1982–96). Table 1 gives the numbers of suicide verdicts and undetermined deaths, separately and combined, for males and females, by single year of age, from age 10 to 19. Data are presented for the combined period 1982–96, as we identified no obvious time trend in the annual data. Over the 15-year period there have been a total of 2,196 suicide and undetermined deaths in males aged 10–19, and 684 deaths among females aged 10–19. The number of suicides increases at each year of age. At ages under 16, the number of undetermined deaths exceeds the number of suicide verdicts except in 13 year old girls.

Figure 2 Age-specific suicide rates* by sex, England and Wales, 1982-96

* 3-year moving averages plotted on central year.

Hawton and Fagg⁸ have shown that attempted suicide by adolescents is primarily a problem in older teenagers, especially females. Over the period 1976-89, 2,282 individuals (1,662 females and 620 males) aged 10-19 were referred to the general hospital in Oxford following a total of 2,741 episodes of deliberate self-poisoning or self-injury. They found higher rates of repetition in adolescent attempters not admitted to a general hospital bed and in those not referred to the hospital psychiatric service. Relationship problems were common in adolescent attempters, particularly in females; and excessive drinking or drug abuse, or both, were quite common, especially in males. Unemployment rates of both male and female attempters were found to be considerably higher than local unemployment rates for older teenagers.

ACCESS AND METHOD

The likelihood of committing suicide will depend to some extent on the ease of access to, and knowledge of, effective means. The method used will depend on availability, ease of use and 'fashion'. Figure 3 shows, separately for men and women, the trends in age-standardised suicide rates for the four most commonly used methods. The data are presented on a 3-year moving average basis to smooth out year-on-year fluctuations.

Poisoning by solid or liquid substances

Poisoning by solid or liquid substances (ICD9 codes E950 and E980) is still by far the most common method of suicide for women, but is now only the third most common method for men. For women, this method still accounts for one half of the total suicide rate, whilst for men it represents one fifth. The suicide rate from this method has decreased for both men and women since 1983, by 8 and 39 per cent, respectively. For women aged 15-44 the suicide rate from this method is lower than for other age-groups, but this is the only age-group for which the rate is not declining. Men aged 15-44 had the lowest suicide rate from this method in 1983, but they now have the highest rate - this age-group being the only one for which male rates have increased. Over the period 1994-96 about 55 per cent of deaths from this method were actually given a suicide verdict, with 45 per cent being given an open verdict.

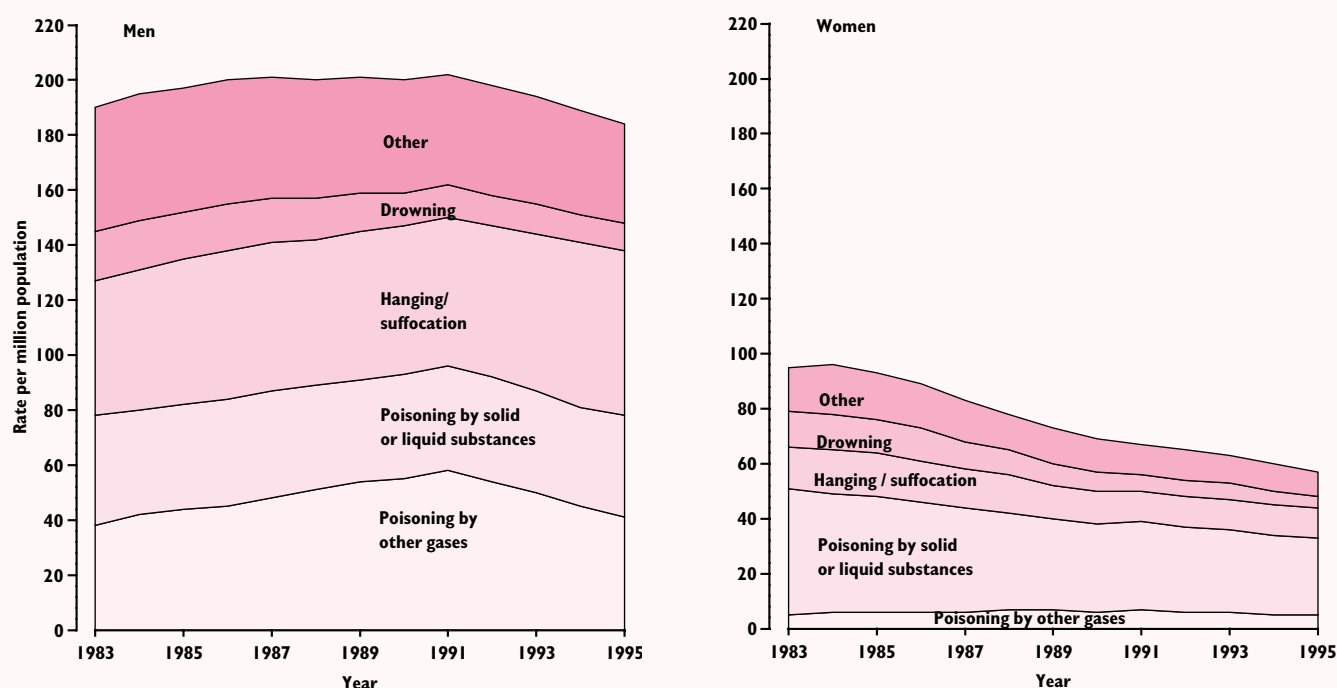
There is some evidence that changing patterns in prescribing have an impact on the drugs used for self-poisoning. Table 2 shows the distribution of poisoning deaths by substance (as identified in ICD9 codes), for the time periods 1982-84 and 1994-96, for men and women combined. The main changes have been a reduction in the

Table 1 Number of suicides and undetermined deaths by sex, ages 10-19, England and Wales, 1982-96

Age	10	11	12	13	14	15	16	17	18	19	Total 10-19
Males											
Suicide	0	2	3	9	24	50	114	234	392	505	1,333
Undetermined	9	9	16	33	42	61	90	142	228	233	863
Total	9	11	19	42	66	111	204	376	620	738	2,196
Females											
Suicide	0	0	1	11	11	31	42	64	83	117	360
Undetermined	2	3	5	6	23	38	42	56	71	78	324
Total	2	3	6	17	34	69	84	120	154	195	684

Figure 3

Age-standardised suicide rates* by sex and method, England and Wales, 1982-96



* 3-year moving averages plotted on central year.

Table 2

Suicides from poisoning by solid or liquid substances: distribution by substance, England and Wales, 1982-84 and 1994-96

Substance	1982-84		1994-96	
	Number of deaths	%	Number of deaths	%
Analgesics, antipyretics & antirheumatics	1,750	34	1,558	38
Barbiturates	735	14	85	2
Other sedatives & hypnotics	346	7	184	4
Tranquillizers & other psychotropic agents	1,026	20	1,072	26
Other specified drugs & medicaments	744	14	726	17
Unspecified drug or medicament	279	5	416	10
Agricultural & horticultural chemical & pharmaceutical preparations	138	3	24	1
Corrosive & caustic substances	64	1	19	0
Arsenic and its compounds	1	0	1	0
Other and unspecified	118	2	69	2
Total	5,201	100	4,154	100

use of barbiturates (ICD9 codes E950.1 and E980.1), for which prescriptions have been falling, and an increase in the proportion of suicides from this method using (other) tranquillisers and other psychotropic agents (ICD9 codes E950.3 and E980.3). This reflects a shift in prescribing patterns from barbiturates to benzodiazepines. The proportion of poisonings using analgesics, antipyretics and antirheumatics (which includes paracetamol) (ICD9 codes E950.0 and E980.0) has remained about the same. However, total female suicides using these drugs have decreased substantially between the time periods, whilst for men the number of suicides has increased. The Department of Health has introduced measures to restrict the sale of paracetamol (and aspirin). The law will come into effect from September 1998, and any impact this legislation has on the number of suicides from paracetamol poisoning will be monitored.

Poisoning by other gases and vapours

There are now less than 10 suicides per year from poisoning by gases in domestic use (ICD9 codes E951 and E981). The reduction in the number of suicides from this method paralleled the reduction in the carbon monoxide content of the domestic gas supply. Poisoning by other gases and vapours (ICD9 codes E952 and E982) is now the second most common method of suicide for men and the third most common method for women. In 1995, it accounted for 22 per cent of the overall suicide rate for men and 8 per cent of the rate for women. For both sexes, suicide rates from this method increased between 1983 and 1991 and then declined. Since their 1991 peak, rates for both men and women have fallen by just under one third. This method is far more common among those aged under 65. This category consists mainly of carbon monoxide poisoning from motor vehicle exhaust gas. Therefore the

previous observation is likely to be related to access, with those aged under 65 more likely to have access to, or drive, a vehicle, whether for work or pleasure (see also the next section on occupation). Over the period 1994–96 about 90 per cent of deaths from poisoning by other gases and vapours were actually given a suicide verdict.

If we look specifically at the motor vehicle exhaust deaths (ICD9 codes E952.0 and E982.0), we find that suicide rates reached a peak at the beginning of the 1990s and then fell dramatically in 1993. Part of this fall was due to a revised coroner's reporting form, introduced in May 1993^{9,10}. Because the form no longer includes specific questions about type of injury and parts of body injured in addition to the section on cause of death, coroners now often provide less detail than before. In 1993 the number of suicides coded to poisoning by motor vehicle exhaust gas declined substantially, while those from poisoning by other carbon monoxide (ICD9 codes E952.1 and E982.1) rose. What is interesting is that this method of suicide appears to be the only one for which there is a clear association between the suicide trend and the change in coroner's form. However, even after 1993, suicide rates from this method continued to fall. The decrease in suicide rates from poisoning by other gases and vapours accounts for most of the overall fall in suicide rates for men since 1991.

This fall may be explained to some extent by new legislation which, from January 1993, required all new petrol vehicles to be fitted with catalytic converters, which reduce carbon monoxide emissions. Of motorcars licensed at the end of 1994, 93 per cent were petrol vehicles¹¹. Of these, 14 per cent were first registered in 1993 or later. By the end of 1996, 90 per cent of licensed motorcars were petrol vehicles¹², of which 28 per cent were first registered in 1993 or later. Taking into consideration that, even before the introduction of the legislation, some cars with catalytic converters already existed, the steadily growing number of cars with catalytic converters may go some way to explain the decreasing suicide rate for this method since the early 1990s. The increased popularity of diesel cars, which emit much lower levels of carbon monoxide, may also have contributed to this fall. We need to observe whether the decrease in suicides from this method continues.

Öström *et al.*¹³ carried out a detailed study of carbon monoxide suicides from car exhausts in Sweden. They concluded that such suicides may be reduced by the introduction of catalytic exhausts, automatic idling stop, and exhaust pipes incompatible with vacuum cleaner tubes.

Hanging and suffocation

Hanging and suffocation (ICD9 codes E953 and E983) is the most common method of suicide among men. In 1995 this method accounted for one third of the overall male suicide rate, compared with one quarter in 1983. Suicide rates from hanging and suffocation have increased steadily for men since 1983. This increase is due entirely to a rise in the 15–44 age-group. Suicide rates for all other age-groups have decreased since 1983. Amongst women, hanging and suffocation remains the second most common suicide method, accounting for one fifth of the overall suicide rate for women in 1995. Suicide rates from this method for women have decreased since 1983. However, among 15–44 year olds, the age-specific death rate has been increasing. In 1983 the suicide rate from this method for women aged 15–44 was about one third of the rate in the older age-groups. But, by 1995, the suicide rates for all

but the oldest age-group (75 and over) were almost identical. Over the period 1994–96, 85 per cent of deaths from this method were actually given a suicide verdict.

Within the method group hanging and suffocation, a higher proportion of men than women hang themselves. Over the period 1982–84, hanging (ICD9 codes E953.0 and E983.0) accounted for 85 per cent of male suicides in this group and suffocation by plastic bag (ICD9 codes E953.1 and E983.1) accounted for 9 per cent. Over the same period, 49 per cent of female suicides in this group were due to hanging and 37 per cent to suffocation. By 1994–96 the proportions for men had changed little - 91 per cent for hanging and 3 per cent for suffocation. However, among women, the proportion of suicides in this group due to hanging had increased to 68 per cent, whilst the proportion due to suffocation had fallen to 20 per cent. This was mainly due to a large decrease in the number of female suicides by suffocation, though there was a small increase in the number of suicides from hanging.

Drowning

Drowning (ICD9 codes E954 and E984) is the fourth most common suicide method for both men and women. In 1983 it accounted for 9 and 13 per cent of the overall suicide rate, for men and women respectively. By 1995 these proportions had fallen to 5 per cent for men, and 7 per cent for women. Since 1983, for both men and women, suicide rates from this method have fallen more than for any other method. The suicide rate from this method has fallen in all age-groups, with the greatest fall in the 65–74 age-group. However, it is still the oldest age-groups which have the highest suicide rates from drowning. Over the period 1994–96 less than 30 per cent of deaths from this method were actually given a suicide verdict, with more than 70 per cent being given an open verdict. This is a much higher proportion of open verdicts than for the other common methods discussed above.

Table 3

Percentage distribution of 'other' methods of suicide by sex, England and Wales, 1982–84 and 1994–96

Method (ICD9 codes)	1982–84	1994–96
	%	%
Men		
Firearms & explosives (E955 and E985)	25	20
Cutting & piercing instruments (E956 and E986)	11	10
Jumping from high place (E957 and E987)	23	15
Jumping or lying before moving object (E958.0 and E988.0)	17	12
Burns, fires (E958.1 and E988.1)	6	8
Other and unspecified (E951 and E981 and E958.2–.9 and E988.2–.9 and E959 and E989)	18	35
Total 'other' methods (=100%)	2,561	2,223
Women		
Firearms & explosives (E955 and E985)	5	2
Cutting & piercing instruments (E956 and E986)	8	6
Jumping from high place (E957 and E987)	34	15
Jumping or lying before moving object (E958.0 and E988.0)	20	13
Burns, fires (E958.1 and E988.1)	13	15
Other and unspecified (E951 and E981 and E958.2–.9 and E988.2–.9 and E959 and E989)	20	49
Total 'other' methods (=100%)	976	551

Other methods

Other methods (ICD9 codes E951 and E981 and E955–E959 and E985–E989) account for about 15 per cent of the overall suicide rate for women, and 20 per cent of the rate for men. The proportions of deaths due to these other causes are summarised in Table 3 for the periods 1982–84 and 1994–96. There has been a large decrease in the proportion of other methods accounted for by jumping from a high place (ICD9 codes E957 and E987), and jumping or lying before a moving object (ICD9 codes E958.0 and E988.0). There has been a shift to the ‘other and unspecified means’ category (ICD9 codes E958.8 and E958.9 and E988.9). This is likely to be due to the changes to the coroner’s reporting form introduced in May 1993 (see above). The total number of suicides from unspecified means increased from about 100 per year in the 1980s, to a peak of 327 in 1993. By 1996, the number had reduced to 278.

Teenage suicides by method

Table 4 shows the distribution of suicides and undetermined deaths by method, for males and females aged 10–19, for the years 1982–96 combined. Compared with adult men, there were higher proportions of deaths from hanging and suffocation, jumping from a high place, and firearms. Among females aged 10–19 there was a much higher proportion of deaths from jumping from a high place than among adult women. These findings would support a link between suicide and access to means. Teenagers would have relatively easier access to high places than to, say, drugs or cars, for which the proportions of teenage deaths are much lower than among adults, except for female deaths from poisoning. For both teenage and adult women, poisoning by solid or liquid substances accounts for one half of all suicides.

OCCUPATION

Suicide data for two time periods, 1982–87 and 1991–96, were used to calculate proportional mortality ratios (PMRs) for both men and women by their own occupation. The selection of occupations was based on the number of deaths occurring in the first time period to men and women aged 20–74. For men we selected occupations with 20 or more suicide deaths and for women, who have fewer suicide deaths than men, we selected occupations with 10 or more suicide deaths. In addition we included occupations that had lower numbers of deaths but had been shown in our previous work³ to have high PMRs. For example, male and female veterinarians were included, despite having only 17 and 2 suicides

respectively between 1982 and 1987. It should be noted that the selection of occupations on these criteria mean that there may be other occupations which also have low numbers of suicides, and which have not previously been shown to have high PMRs, that were not selected. The selection of occupations on these criteria meant that we analysed 139 occupations for men and 47 occupations for women, out of about 350 possible occupation codes.

The PMR is a ratio of how much more or less likely a death in a given occupation is to be from suicide as opposed to other causes of death, than a death to someone of the same age and sex in England and Wales as a whole. A PMR of 100 means that there is no difference in the ratio of suicide deaths to all deaths in the given occupation compared to England and Wales. A value of 50 means that the chances of a death in a given occupation being certified as suicide are half that of England and Wales as a whole. Whereas, a value of 200 means that the given occupation has double the proportion of all deaths certified as suicide compared to England and Wales. PMRs should be interpreted with care because the proportion of deaths from the cause of interest is affected by the relative frequency of other causes of death. If mortality from all causes is low in a given occupation, a high PMR from suicide may be found, even if the suicide rate in that occupation is lower than the national rate. As a result, an observed excess may represent a true difference, but may also simply represent a deficit of deaths from other causes (see Box 1).

PMRs are presented only for those occupations whose ratios were significantly different from England and Wales at one or both of the time periods; that is where the 95% confidence interval excluded 100. In Tables 5–8 occupations are not ordered by the value of their PMR but by their confidence intervals. The occupations with the highest ratios of those analysed are presented in descending order of the lower confidence interval. Those occupations with the lowest ratios are presented in ascending order of the upper confidence interval. This means that the occupations with PMRs most significantly different from England and Wales are always presented at the top of the tables. This method of ordering PMRs ‘has the advantage of taking account of both the magnitude and level of statistical variability’¹⁴. It must be remembered that the initial selection of occupations was based on those having high numbers of suicides or those known to have high PMRs. Therefore, there may be other occupations which would have had lower PMRs for suicide than those which we selected for our analysis. However, occupations which have very low numbers of deaths are less likely to produce significant results.

Table 4

Percentage distribution of suicides and undetermined deaths by method and sex, ages 10–19, England and Wales, 1982–96

Method (ICD9 codes)	Males			Females		
	Suicides	Undetermined	Total	Suicides	Undetermined	Total
	%	%	%	%	%	%
Poisoning by solid or liquid substances (E950 and E980)	12	17	14	43	62	52
Poisoning by other gases and vapours (E952 and E982)	19	4	13	8	2	5
Hanging and suffocation (E953 and E983)	43	32	39	27	9	18
Drowning (E954 and E984)	1	10	4	0	5	2
Firearms and explosives (E955 and E985)	8	5	7	1	1	1
Cutting and piercing instruments (E956 and E986)	1	0	1	1	1	1
Jumping from high place (E957 and E987)	6	12	8	7	11	9
Other and unspecified (E951, E958, E959, E981, E988 and E989)	11	20	14	12	10	11

Note: Percentages may not add to 100 due to rounding.

Box I

Proportional mortality ratios (PMRs)

The PMR enables the impact of a disease upon an exposed population to be examined. In this paper we are interested in PMRs for suicide amongst different occupation groups, for men aged 20–64 and women aged 20–59. The PMR is calculated as follows:

$$\text{PMR} = \frac{\text{Observed deaths from suicide}}{\text{Expected deaths from suicide}} \times 100$$

The expected deaths are computed by applying the proportion of total deaths due to suicide in the comparison or general population (in this case, all men aged 20–64 or all women aged 20–59) to the total deaths in the occupation group of interest.

A PMR of 200 means that the given occupation has double the proportion of all deaths certified as suicide compared to England and Wales. PMRs should be interpreted with care because the proportion of deaths from the cause of interest is affected by the relative frequency of other causes of death. If mortality from all causes is low in a given occupation, a high PMR from suicide may be found, even if the suicide rate in that occupation is lower than the national rate. As a result, an observed excess may represent a true difference, but may also simply represent a deficit of deaths from other causes.

Analyses by occupation were restricted to men aged 20–64 and women aged 20–59. The upper age limit reflects the age of retirement and the lower limit was set to 20 rather than 16 because previous work has shown that over 40 per cent of men aged 16–19 are classified as unoccupied; by age 20–24 this has reduced to just over 10 per cent¹⁵.

Table 5 gives the PMR and number of suicides for occupations with the significantly highest ratios of suicide to all-cause mortality for men aged 20–64, in descending order of their lower confidence intervals, for the two time periods 1982–87 and 1991–96. Vets had the highest proportion of deaths from suicide in 1982–87, more than 3 times that for men aged 20–64 in England and Wales as a whole. The second most significantly high PMR was for the group comprising farmers, horticulturists and farm managers, which had twice the ratio of England and Wales. Two other occupations had ratios of more than twice England and Wales in the first time

period: librarians/information officers and pharmacists. By 1991–96, vets and farmers had the second and third most significantly high PMRs of those analysed, with dental practitioners becoming the occupational group with the most significantly high ratio. Although dentists had a lower PMR than vets in the second time period (249 and 324 respectively) the proportion of suicide deaths to dentists is more significant because it is based on a higher number of deaths.

For all but one of the 17 occupations that had a significantly high PMR in 1982–87 there was a decrease in the PMR by 1991–96. Only seven of the occupations with a significantly high PMR in the first time period still had a significantly high PMR in the second time period. The PMR for librarians/information officers showed the greatest decrease, of 63 per cent, between the two time periods, from 226 to 83. The only occupation which had a significantly high PMR in 1982–87 and for which the PMR increased by 1991–96

Table 5

Proportional mortality ratios by occupation, men aged 20–64, England and Wales, 1982–87 and 1991–96

PMRs which are significantly high*				PMRs which are significantly high*			
		1982–87				1991–96	
Occupation†	PMR	Confidence interval Lower Upper	Number of suicides	Occupation†	PMR	Confidence interval Lower Upper	Number of suicides
Veterinarians	349	(203 - 559)	17	Dental practitioners	249	(161 - 367)	25
Farmers, horticulturists, farm managers	202	(180 - 226)	311	Veterinarians	324	(148 - 615)	9
Librarians, information officers	226	(140 - 345)	21	Farmers, horticulturists, farm managers	144	(124 - 166)	190
Pharmacists	214	(140 - 313)	26	Sales representatives – property and services	151	(122 - 184)	97
Medical practitioners	175	(138 - 218)	78	Medical practitioners	147	(115 - 185)	71
Dental practitioners	192	(117 - 296)	20	Garage proprietors	155	(112 - 208)	43
Deck, engine-room hands, bargemen, lightermen, boatmen	144	(117 - 176)	95	Pharmacists	171	(111 - 252)	25
Teachers (not elsewhere classified)	132	(116 - 150)	233	Other motor drivers	124	(108 - 141)	221
Gardeners, groundsmen	134	(116 - 154)	197	Painters and decorators, french polishers	119	(108 - 132)	389
Hotel porters	171	(113 - 249)	27	Publicans	128	(107 - 152)	129
Other domestic and school helpers	175	(111 - 262)	23	Builders	119	(106 - 132)	332
Forestry workers	173	(107 - 264)	21	Cleaners, window cleaners, road sweepers	122	(105 - 139)	204
Shop salesmen and assistants	123	(106 - 141)	196	Shop salesmen and assistants	118	(105 - 133)	296
Driving instructors – (not HGV)	152	(106 - 213)	34	Carpenters and joiners	115	(103 - 127)	384
Chemical scientists	153	(105 - 215)	33	Gardeners, groundsmen	117	(102 - 133)	234
Sales representatives	116	(101 - 134)	203				
Farm workers	120	(101 - 141)	142				

* 95 per cent confidence interval does not include 100.

† Occupations listed in descending order of lower confidence interval.

Table 6

Proportional mortality ratios by occupation, women aged 20–59, England and Wales, 1982–87 and 1991–96

PMRs which are significantly high*				PMRs which are significantly high*			
		1982–87				1991–96	
Occupation†	PMR	Confidence interval Lower Upper	Number of suicides	Occupation†	PMR	Confidence interval Lower Upper	Number of suicides
Medical practitioners	355	(236 - 513)	28	Medical practitioners	285	(185 - 421)	25
Therapists - (not elsewhere classified)	269	(147 - 452)	14	Domestic housekeepers	247	(141 - 402)	16
Pharmacists	274	(131 - 504)	10	Veterinarians	500	(136 - 1279)	4
Nurse administrators, nurses	146	(129 - 164)	276	Waitresses	187	(132 - 258)	37
Domestic housekeepers	210	(118 - 347)	15	Nurse administrators, nurses	137	(121 - 156)	240
Physiotherapists	256	(117 - 487)	9	Professional & related in education, welfare and health	183	(119 - 268)	26
Students	144	(113 - 182)	72	Students	139	(117 - 165)	132
Ambulancewomen	396	(108 - 1014)	4	Cleaners, window cleaners, road sweepers	138	(112 - 169)	95
Waitresses	148	(101 - 209)	32	Hospital ward orderlies	130	(109 - 153)	139

* 95 per cent confidence interval does not include 100.

† Occupations listed in descending order of lower confidence interval.

Table 7

Proportional mortality ratios by occupation, men aged 20–64, England and Wales, 1982–87 and 1991–96

PMRs which are significantly low*				PMRs which are significantly low*			
		1982–87				1991–96	
Occupation†	PMR	Confidence interval Lower Upper	Number of suicides	Occupation†	PMR	Confidence interval Lower Upper	Number of suicides
Managers in building and contracting	35	(21 - 56)	18	Chemical, gas and petroleum plant operators	46	(31 - 66)	28
Permanently sick, mentally or physically handicapped	47	(36 - 60)	65	Labourers and unskilled workers n.e.c. – engineering and allied trades	53	(40 - 69)	53
Transport managers	40	(24 - 62)	19	Production, works and maintenance managers, foremen	61	(50 - 73)	122
Production, works and maintenance managers, works foremen	54	(45 - 64)	134	Vocational and industrial trainers	46	(27 - 73)	18
Centre lathe turners	47	(27 - 75)	17	Managers in building and contracting	50	(32 - 74)	24
Policemen	61	(47 - 78)	66	Teachers in establishments for further and higher education	50	(29 - 81)	16
Inspectors, viewers (metal, electrical goods)	60	(44 - 78)	51	Messengers	46	(23 - 82)	11
Labourers and unskilled workers n.e.c. – engineering and allied trades	71	(58 - 85)	115	Face-trained coal mining workers	41	(16 - 84)	7
Bus and coach drivers	68	(53 - 85)	73	Labourers and unskilled workers n.e.c. (textiles – not textile goods)	52	(31 - 84)	17
Fork lift, mechanical truck drivers	67	(51 - 86)	60	Marketing and sales managers	71	(58 - 86)	109
Storekeepers and warehousemen	78	(69 - 88)	288	Moulders – coremakers, die casters	37	(12 - 86)	5
Vocational and industrial trainers	56	(33 - 88)	18	Scrap, general, rag and bone dealers	49	(24 - 87)	11
Drivers of road goods vehicles	83	(76 - 90)	568	Actors, entertainers etc	70	(53 - 92)	54
Building and civil engineering labourers	77	(66 - 90)	157	Restaurateurs	75	(59 - 93)	82
Deck, engineering and radio officers and pilots, ships	55	(31 - 90)	15	Permanently sick, mentally or physically handicapped	65	(44 - 93)	30
Marketing and sales managers and executives	74	(59 - 91)	83	Storekeepers and warehousemen	83	(74 - 93)	282
Metal plate workers, shipwrights, riveters	64	(43 - 92)	29	Building and civil engineering labourers	81	(70 - 94)	183
Metal working production fitters and fitters/machinists	85	(77 - 93)	428	Chefs, cooks	81	(69 - 94)	172
Managers in warehousing and materials handling n.e.c	63	(40 - 94)	23	Transport managers	67	(45 - 95)	30
Motor mechanics, auto engineers	83	(71 - 97)	172	Authors, writers and journalists	72	(53 - 97)	45
Face-trained coal mining workers	68	(46 - 97)	31	Buyers and purchasing officers – not retail	64	(40 - 97)	22
Stevedores, dockers	67	(44 - 98)	27	Managers in warehousing	67	(44 - 98)	27
UK armed forces	84	(71 - 98)	152	Metal plate workers, shipwrights, riveters	62	(37 - 99)	18
Welders	83	(70 - 99)	128	Electronic engineers	66	(42 - 99)	23
Plumbers, heating and ventilation fitters, gas fitters	85	(73 - 100)	160	Policemen	79	(63 - 99)	81
				Civil, municipal, mining engineers	76	(58 - 100)	55

* 95 per cent confidence interval does not include 100.

† Occupations listed in ascending order of upper confidence interval.

Table 8

Proportional mortality ratios by occupation, women aged 20–59, England and Wales, 1982–87 and 1991–96

PMRs which are significantly low*				PMRs which are significantly low*			
		1982–87				1991–96	
Occupation†	PMR	Confidence interval Lower Upper	Number of suicides	Occupation†	PMR	Confidence interval Lower Upper	Number of suicides
Office machine operators	41	(21 - 71)	12	Chefs, cooks	36	(19 - 63)	12
Counter hands – assistants	53	(36 - 76)	31	Teachers in establishments for further and higher education	24	(3 - 88)	2
Chefs, cooks	52	(31 - 81)	19	Sewers, embroiderers	62	(39 - 93)	23
Permanently sick, mentally or physically handicapped	59	(40 - 85)	30				
Other domestic and school helpers	77	(61 - 96)	79				

* 95 per cent confidence interval does not include 100.

† Occupations listed in ascending order of upper confidence interval.

was dentists, with PMRs of 192 and 249 respectively, an increase of 30 per cent.

Table 6 gives the PMR and number of suicides for occupations with significantly high ratios for women aged 20–59, in descending order of their lower confidence intervals, for the two time periods. Of those analysed, medical practitioners had the highest PMR at both time periods, 355 and 285 respectively. As for men, the occupations with significantly high PMRs are dominated by the medical and associated professions, suggesting a link between occupation and access to, and knowledge of, methods of committing suicide. The PMR for vets, who had the highest ratio amongst men, is not significant for women in the first time period but is significant in 1991–96, despite being based on only 4 deaths. Women classified as students have significantly high PMRs at both time periods, 144 and 139 respectively, and are based on relatively high numbers of deaths. However, it must be reiterated that these PMRs show the likelihood that a death in a given occupation is from suicide rather than another cause. Because students are predominantly in the younger ages the likelihood of them dying from any cause is very low, so that if they do die it is more likely to be from external causes of death such as suicides or accidents than from natural causes. However, this is not to take away from the fact that there have been 1,256 suicides to women aged 20–24 and 5,645 suicides to men aged 20–24 over the last 15 years, which contribute significantly to the years of working life lost as a result of premature death.

Tables 7 and 8 give the occupations with the significantly lowest PMRs for men and women, from those which were initially selected. Men classified as chemical, gas and petroleum plant

operators had the lowest PMR in 1991–96, with a value of 46. For women, the occupational group chef and cooks had the lowest ratio, with a PMR of 36, meaning that deaths from suicide as a ratio of all deaths in this group is only one third that of all women aged 20–59 in England and Wales.

In both time periods and for both sexes the highest ranking occupations are dominated by those in Social Classes I and II. Although this has previously been found and is not unexpected, it serves to highlight the nature of PMRs. We know from other studies¹⁶ that men in Social Classes I and II have much lower rates of suicide than men in Social Class V. Thus the high PMRs found for doctors, vets and dentists reflect the fact that their overall mortality is low and therefore the proportion of deaths from suicide is high relative to other causes. However, it is interesting to note that the Social Class I/II occupations which have high PMRs are predominantly the medical and allied professions, rather than accountants or lawyers for example. This leads us to ask whether ease of access to, and knowledge of, drugs or other methods of suicide could be a contributory factor.

Access and method by occupation

The earlier section on methods of suicide and our previous articles noted that the probability of committing suicide will depend to some extent on the ease of access to effective methods. We have already noted above that the occupations with the highest proportional mortality ratios (PMRs) for both men and women are predominantly the medical and allied professions which have easy access to, and knowledge of, drugs. Tables 9 and 10 show for men and women the distribution of suicides by method for the

Table 9

Percentage distribution of suicides by method and occupation, men aged 20–64, England and Wales, 1982–96

Occupations with high PMRs (alphabetical order)	Poisoning by solid or liquid substances (E950 and E980)	Poisoning by other gases and vapours (E952 and E982)	Hanging and suffocation (E953 and E983)	Drowning (E954 and E984)	Firearms and explosives (E955 and E985)	Other	Number of suicides (=100%)
Builders	13	37	28	4	7	10	675
Carpenters and joiners	14	27	34	6	5	14	830
Chemical scientists	38	17	20	6	4	14	69
Cleaners, window cleaners, road sweepers	21	25	28	6	2	18	444
Deck, engine-room hands, bargemen, lightermen, boatmen	27	14	21	21	3	14	168
Dental practitioners	24	24	28	4	7	13	54
Driving instructors - not HGV	10	61	21	4	2	2	84
Farm workers	11	24	34	7	16	8	317
Farmers, horticulturists, farm managers	6	18	33	4	36	3	609
Forestry workers	9	22	31	5	19	14	58
Garage proprietors	6	55	16	2	13	8	96
Gardeners, groundsman	23	21	30	6	5	15	554
Hotel porters	37	8	24	6	2	24	51
Librarians, information officers	17	14	28	17	3	22	36
Medical practitioners	50	10	16	4	6	14	185
Other domestic and school helpers	31	15	25	8	2	19	52
Other motor drivers	14	48	23	3	1	11	432
Painters and decorators, french polishers	22	25	29	5	3	16	856
Pharmacists	61	13	7	5	5	10	61
Publicans	17	36	21	3	12	11	304
Sales representatives	14	50	19	3	4	10	404
Sales representatives - property and services	15	49	16	4	5	11	255
Shop salesmen and assistants	19	37	21	4	3	16	623
Teachers - not elsewhere classified	16	30	22	8	4	21	518
Veterinarians	76	3	5	0	16	0	38
All men	20	27	27	6	5	16	45,445

Note: Percentages may not add to 100 due to rounding.

Table 10

Percentage distribution of suicides by method and occupation, women aged 20–59, England and Wales, 1982–96

Occupations with high PMRs (alphabetical order)	Poisoning by solid or liquid substances (E950 and E980)	Poisoning by other gases and vapours (E952 and E982)	Hanging and suffocation (E953 and E983)	Drowning (E954 and E984)	Other	Number of suicides (=100%)
Ambulancewomen	50	38	13	0	0	8
Cleaners, window cleaners, road sweepers	50	4	16	12	17	206
Domestic housekeepers	51	11	11	11	16	37
Hospital ward orderlies	60	9	13	4	13	210
Medical practitioners	67	8	14	3	9	66
Nurse administrators, nurses	59	12	13	5	11	672
Pharmacists	94	0	6	0	0	17
Physiotherapists	37	26	26	5	5	19
Professional & related in education, welfare and health	46	28	13	5	8	39
Students	32	11	22	6	30	250
Therapists - not elsewhere classified	31	24	28	3	14	29
Veterinarians	89	11	0	0	0	9
Waitresses	53	6	10	14	17	87
All women	46	10	17	9	18	14,082

Note: Percentages may not add to 100 due to rounding.

occupations which had significantly high PMRs, aggregated for the years 1982–96. The occupations are presented in alphabetical order. For both men and women the distribution is split between the most commonly used methods and a remainder category. The four most commonly used methods for both men and women were poisoning by solid or liquid substances (ICD9 codes E950 and E980), poisoning by other gases and vapours (ICD9 codes E952 and E982), hanging and suffocation (ICD9 codes E953 and E983) and drowning (ICD9 codes E954 and E984), although there was a sex difference in the percentage distribution of these methods. For men the additional category of firearms and explosives (ICD9 codes E955 and E985), the fifth most common method, has been included in the table because its use varies greatly with occupation. The ordering and percentage distribution in these tables differ from figures presented in the earlier section on methods since these latter figures were based on averages for the years 1982–84 and 1994–96.

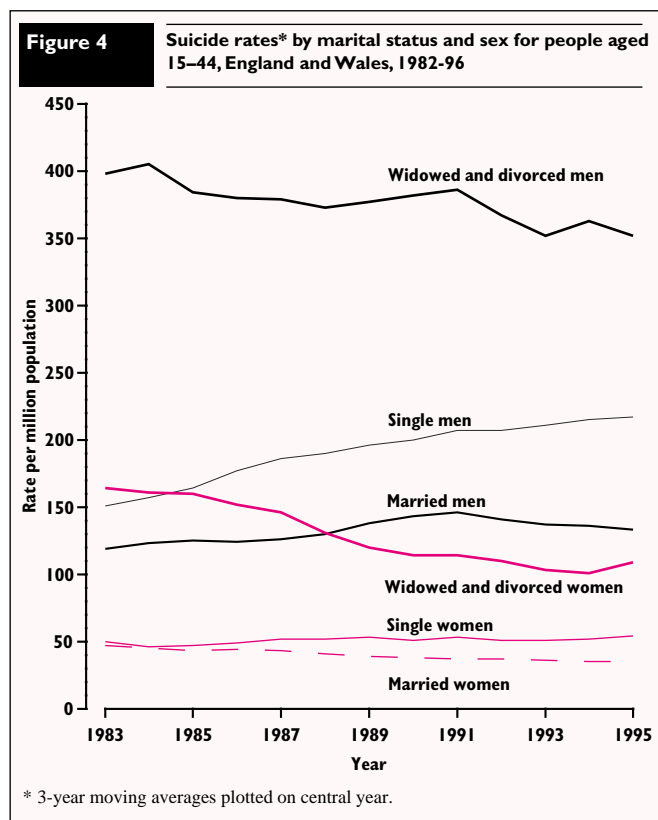
For men, there was little difference in the overall percentage using the three most common methods; each of which accounted for about one quarter of all suicides. However, there were big variations by occupation within each method. For example, for poisoning by solid or liquid substances, which accounted for 20 per cent of all suicides in men, the percentages amongst the medical and allied professions were much higher. Vets had the highest percentage of suicides using this method (76 per cent), followed by pharmacists (61 per cent) and medical practitioners (50 per cent).

Over 12,000 suicides between 1982 and 1996 to men aged 20–64 resulted from poisoning by other gases and vapours (which excludes poisoning by gases in domestic use, ICD9 codes E951 and E981), with an average of 95 per cent of these specifically attributable to motor vehicle exhaust gas (ICD9 codes E952.0 and E982.0). Poisoning by other gases and vapours accounted for about one quarter of all male suicides but around half of suicides in the occupation groups garage proprietors, driving instructors - non HGV, other motor drivers and sales representatives.

The percentage of suicides which resulted from hanging and suffocation varied little across occupations. For drowning, two of the occupations which had high PMRs had percentages much higher than the overall figure of 6 per cent. These were deck and engine room hands (seafarers) and librarians/information officers.

Some of the greatest differences by occupation were seen for the percentage of suicides resulting from firearms. Overall, firearms accounted for 5 per cent of suicides to men aged 20–64 between 1982 and 1996. However, among the occupation group farmers, horticulturists and farm managers, firearms accounted for 36 per cent of all suicides. Other occupations with high percentages of suicides from firearms included forestry workers, farm workers and vets. Following a literature review, including experiences from a few studies on gun control in the United States, Öström *et al.*¹³ concluded that a reduction in the availability of methods of committing suicide is a convincing and conceivable means of reducing the number of such deaths.

For women aged 20–59, nearly half of all suicides between 1982 and 1996 resulted from poisoning by solid or liquid substances. As with men, the occupations with the highest percentage of suicides resulting from this method were pharmacists (94 per cent) and vets (89 per cent). For the second most common method among women, hanging and suffocation, there was little variation by occupation - the percentages were low in pharmacists and vets because of the predominance of poisoning by solid or liquid substances. The percentage of suicides by occupation which resulted from poisoning by other gases and vapours was highest in the medical support professions, those classified as - ambulancewomen, professional and related in education, welfare and health (not elsewhere classified), therapists (not elsewhere classified) and physiotherapists. Drowning, the fourth most common method of suicide amongst women, showed little occupational variation.



For women, there was little occupational variation in the method used, mainly as a result of the predominance of a single method - poisoning by solid or liquid substances - which accounted for half of all suicides in women. For men, the method of suicide used was strongly related to their occupation and therefore their access to certain methods; for example, medical practitioners and drugs, and farmers and guns. The association between the method used and ease of access was also confirmed by the high percentage of teenage suicides which resulted from hanging and suffocation and from jumping from a high place; methods which are the most 'readily available' to teenagers. These findings pose the question as to whether people in these occupations are more likely than those in other occupations to 'attempt' suicide, or whether men and women in these occupations have easier access to, and better knowledge of, effective methods of suicide.

OTHER FACTORS

Marital status

The earlier section on age identified that suicide rates within the 15–44 age-group are either increasing, or declining at a slower rate, than among older adults. We calculated suicide rates in the combined 15–44 age-group by marital status, for men and women separately. These were calculated for the period 1982–96 on a three-year moving average basis, and are shown in Figure 4. Divorced and widowed men continue to have the highest suicide rates although they have been declining since 1983. Suicide rates for single men have been increasing continuously since 1983; whilst among married men, rates reached a peak in 1991, since when they have declined slowly. Rates have been decreasing for women in all marital status groups, except for those who are single. In 1996 a greater proportion of young people were single than in

1982, due to people delaying marriage and cohabiting or living alone¹⁷. Much has been written about the protective effect (on health) of marriage for men. People who live alone may suffer from a lack of emotional and other support provided by partners and families.

In 1982–84 the suicide rate for men aged 15–44 was 152 per million. By 1994–96 it had risen to 200 per million. Using the 1982–84 marital status distribution and 1994–96 suicide rates by marital status in ten-year age-groups, we calculated the expected suicide rate in 1994–96 if there had been no changes in the proportions of men in different marital status groups. The rate would have been 168 per million. This suggests that over two thirds of the increase in suicide rates in young men since 1982–84 may be related to the smaller proportions who are married. These calculations take no account of the increase in cohabitation among single men during this period, since death statistics do not record cohabitation as a marital status.

The same analysis was also carried out for women. Amongst those aged 15–44 the suicide rate decreased from 56 per million in 1982–84, to 51 per million in 1994–96. However, when we adjusted for the reduction in the proportion of women who were married between 1982–84 and 1994–96, the expected suicide rate in 1994–96 was even lower, at 43 per million. These findings still confirm the conclusions reached by Durkheim¹⁸ in 1897, that marriage reduced the chances of suicide owing to the greater social integration of married people.

Drug and alcohol misuse

It is well established that drug addicts and alcoholics are at an increased risk of suicide¹⁹. In an earlier article² we analysed trends in deaths from drug misuse and alcohol-related causes. Death rates from alcohol-related causes, both including and excluding cirrhosis, continued to increase between 1982 and 1996. This was true for both men and women, and in the age-groups 15–44 and 45 and over. Rates were much higher in men and at older ages. Previously we suggested that these rises explained to some extent the increase in young male suicide rates. This was based on the assumption that rises in the death rate from alcohol-related causes reflect increases in alcohol misuse nationally. However, death rates from alcohol-related causes have continued to increase whilst, for the broad age-groups 15–44 and 45 and over, suicide rates are now on the decline.

Death rates from drug abuse (ICD9 codes 304 and 305.2–.9) have continued to rise in the 15–44 age-group. Within this age-group, men were four times more likely than women to die from this cause in 1996. Since 1993 the rate among women has more than doubled. Rates for both men and women aged 45 and over are considerably lower than rates in the younger age-group. As with alcohol-related causes, death rates from drug abuse have continued to increase, whilst for the broad age-group 15–44 suicide rates are now on the decline.

These findings should not negate the fact that alcohol and other drug misuse are contributing factors in some individual suicides. Indeed, in-depth case-control studies of suicides, particularly in young people, have found alcohol and other drug abuse to be major factors in suicide trends.

Prison

The term employed by the Prison Service to refer to an apparent suicide is “self-inflicted death” (see footnote). Data from HM Prison Service show that the number of self-inflicted deaths amongst male prisoners in England and Wales increased from 23 in 1982, to 67 in 1997²⁰. Although the average size of the prison population also increased during this period, the self-inflicted death rate amongst men in prison doubled between 1982 and 1997, from 54 self-inflicted deaths per 100,000 prison population, to 115 per 100,000.

Most completed self-inflicted deaths and most self-harm attempts amongst prisoners occur during the remand stage. Liebling and Krarup²¹ analysed details of 305 incidents of self-harm carried out by 248 prisoners in 16 male establishments (selected to be reasonably representative of the prison system as a whole). They found that one third of the incidents examined occurred within 7 days of arrival. They attributed this to the fact that “the remand population contains all the vulnerable groups (the young, first timers, mentally disordered, etc) at the most stressful time of their custodial experience”. Their research shows that self-injury and attempted suicide are not only a function of individual vulnerability and circumstances, but are also influenced by the quality of prison regimes and the response of staff.

ONS is currently undertaking a survey (reporting in summer 1998), commissioned by the Department of Health, of prisoners in England and Wales. The main aims of the study are to measure the prevalence of mental health problems among prisoners, the impact and burden of these problems, and the need for and use of services. The impact on suicide trends in prison of any new initiatives introduced as a result of the findings of this survey will be monitored.

AIDS

Increased suicide rates for HIV positive individuals and people with AIDS have been recorded in numerous studies from around the world, including by Pugh *et al.*²² in the United Kingdom. Catalan and Pugh²³, however, describe some of the methodological pitfalls involved with some of these studies. In a case note audit in London²⁴, Sherr highlighted the complex mental health needs associated with HIV infection and AIDS.

AIDS incidence rates levelled in the mid-1990s and fell sharply in 1996 and 1997 with the introduction of improved pre-AIDS antiretroviral therapies. The number of newly diagnosed HIV infections reported to the Public Health Laboratory Service Communicable Disease Surveillance Centre remained at about two and a half thousand per year over the period 1991–97²⁵.

The two Thames regions, and North Thames in particular, reported the greatest numbers of newly diagnosed HIV infections and AIDS cases. The increase in suicide rates in the 1980s bore little correlation with the main high prevalence HIV areas. Over 80 per cent of newly diagnosed AIDS cases and almost 90 per cent of

newly diagnosed HIV infections have been in the 15–44 age-group²⁵. However, suicide rates in London, where 60 per cent of AIDS patients live, showed the smallest percentage rise in 15–44 year olds between 1982–86 and 1992–96. London’s rate rose by 1 per cent, compared with at least a 13 per cent rise for every other Government Office Region. A detailed analysis of suicide trends by area will be presented in the next issue of *Population Trends*.

Other terminal illness

Several authors^{26,27} have noted that cancer diagnosis involves an increased suicide risk, with most agreeing that suicide risk is highest during the first to second year after diagnosis. Severe depression is particularly frequent among cancer patients, and is also a risk factor for suicide.

Ethnic origin/country of birth

Since ethnic origin is not collected at death registration, analyses of ethnic differences in mortality have to use country of birth as a proxy. Soni Raleigh²⁸ has used mortality data for England and Wales for 1988–92 and population denominators from the 1991 Census, to examine suicide rates in people of Indian subcontinent and Caribbean origin.

Seasonality

Monthly suicide data for the fifteen years 1982–96 were tested for seasonality. For men and women combined, and separately, there was no evidence of significant levels of seasonality although the peak months were March and April, and suicides were at their lowest in December. Similar peaks and troughs have been found in Belgium²⁹, whilst suicides in the United States have been found to peak in late spring³⁰.

CONCLUSIONS

Since 1982 female suicides have fallen continuously, whilst male suicides have only started to fall since 1988. Men aged 25–34 are now the only male age-group for which suicide rates continue to rise. Rates among women aged 15–24 have risen since 1982, but they remain at a relatively low level. Although the total number of suicides has declined in recent years, the contribution of suicides to total years of working life lost has increased. This is due to the increase in suicide in some younger age-groups.

Hanging is the most common method of suicide for teenage and adult men, whilst poisoning by solid and liquid substances is the most common method among teenage and adult women. Our analyses support the view that there is a link between suicide rates and access to, and knowledge of, effective means of committing suicide. For men, suicides from poisoning by other gases and vapours (principally motor vehicle exhaust gas) have fallen from a peak in the early 1990s. There is some indication that this may be due to the increasing numbers of cars fitted with catalytic converters. The reduction in suicides from this method is the major reason for the recent decline in overall suicide rates among men. The access link is also borne out by our occupational analyses. Men and women classified to the medical and allied professions had the highest proportions of suicides relative to other causes of death. Amongst these professions poisoning by solid or liquid substances was the predominant method. For men classified as farmers, a much higher proportion of suicides resulted from firearms compared to the national average.

Footnote

The term employed by the Prison Service to refer to an apparent suicide is ‘self-inflicted death’. This is broader than the former definition and includes all those deaths where it is clear that the person has acted specifically to take his/her own life. It is not restricted to the official verdict from the Coroner’s inquest, where verdicts of ‘suicide’, ‘open’ or ‘misadventure’ may be recorded, in cases where there was doubt about a person’s intent to end their life.

Suicide rates have decreased for all marital status groups, except the single. The increase between 1982 and 1996 in the suicide rate for men aged 15–44 may be related to the decline in the proportions who are married. We also found that the self-inflicted death rate for men in prison doubled between 1982 and 1997.

In our second article, to be published in *Population Trends* 93, we look at the geographic variation in suicide mortality for 1982–96. Data will be presented for the constituent countries of the United Kingdom and, within England and Wales, for Government Office Regions and local authorities.

Acknowledgements

We gratefully acknowledge help and advice from colleagues in ONS and other government departments. We also thank Keith Hawton for his helpful comments and suggestions.

References

- 1 Charlton J, Kelly S, Dunnell K, Evans B, Jenkins R, Wallis R. Trends in suicide deaths in England and Wales. *Population Trends* 69, 10–16, HMSO (1992).
- 2 Charlton J, Kelly S, Dunnell K, Evans B, Jenkins R. Suicide trends in England and Wales: trends in factors associated with suicide deaths. *Population Trends* 71, 34–42, HMSO (1993).
- 3 Kelly S, Charlton J, Jenkins R. Suicide deaths in England and Wales, 1982–92: the contribution of occupation and geography. *Population Trends* 80, 16–25, HMSO (1995).
- 4 World Health Organisation. *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death*, volume 1, (Ninth Revision). WHO, Geneva, (1977).
- 5 Office for National Statistics. *Mortality statistics: injury and poisoning 1995*. Series DH4 no.20. The Stationery Office (1997).
- 6 Office for National Statistics. *Mortality statistics: cause 1993 (revised) and 1994*. Series DH2 no.21. HMSO (1996).
- 7 Waterhouse J *et al* (eds). *Cancer incidence in five continents*, vol 3, 456. International Agency for Research on Cancer, Lyon, (1976).
- 8 Hawton K and Fagg J. Deliberate self-poisoning and self-injury in adolescents: a study of characteristics and trends in Oxford, 1976–89. *British Journal of Psychiatry*, vol 161, 816–23, (1995).
- 9 Office for National Statistics. *Mortality statistics: injury and poisoning 1993 and 1994*. Series DH4 no.19. HMSO (1996).
- 10 Rooney C and Devis T. Mortality trends by cause of death in England and Wales 1980–94: the impact of introducing automated cause coding and related changes in 1993. *Population Trends* 86, 29–35, The Stationery Office (1996).
- 11 Department of Transport. *Transport Statistics Report, Vehicle Licensing Statistics:1994*.
- 12 Department of Transport. *Transport Statistics Report, Vehicle Licensing Statistics:1996*.
- 13 Öström M, Thorson J and Eriksson A. Carbon monoxide suicide from car exhausts. *Social Science and Medicine* 42, no.3, 447–51, (1996).
- 14 Roman E and Carpenter L. Cancer incidence in England 1981–1987. In: *Occupational Health - Decennial Supplement. Series DS no. 10*, ed F. Drever, pp. 77–102. HMSO.
- 15 Drever F. *How are census based mortality rates calculated?* In: Drever F and Whitehead M. (eds) *Health Inequalities*. The Stationery Office (1997).
- 16 Drever F and Bunting J. *Patterns and trends in male mortality*. In: Drever F and Whitehead M. (eds) *Health Inequalities*. The Stationery Office (1997).
- 17 Haskey J. Population review: (6) Families and households in Great Britain. *Population Trends* 85, 7–24, HMSO (1996).
- 18 Durkheim E. *Suicide: a study in sociology*. London, Routledge and Kegan Paul (1952) (first published 1897).
- 19 Hawton K. Assessment of suicide risk. *Br J of Psychiatry*, 150, 145–53, (1987).
- 20 Personal communication. HM Prison Service, March 1998.
- 21 Liebling A and Krarup H. *Suicide attempts and self-injury in male prisons - a summary*. Home Office Library, (1993).
- 22 Pugh K, O'Donnell I and Catalan J. Suicide and HIV disease. *AIDS Care*, 5, 391–400, (1993).
- 23 Catalan J and Pugh K. Suicidal behaviour and HIV infection - is there a link? *AIDS Care*, 7, S117–S121, (1995).
- 24 Sherr L. Suicide and AIDS: lessons from a case note audit in London. *AIDS Care*, 7, S109–S116, (1995).
- 25 PHLS AIDS and STD Centre - Communicable Disease Surveillance Centre, and Scottish Centre for Infection & Environmental Health. Unpublished AIDS/HIV Quarterly Surveillance Tables No.37, 97/3.
- 26 Bellini M and Capannini D. Increased suicide risk in cancer patients. *Minerva Psichiatrica*, 35(3), 175–86, (1994).
- 27 Allebeck P and Bolund C. Suicides and suicide attempts in cancer patients. *Psychological Medicine*, 21, 979–984, (1991).
- 28 Soni Raleigh V. Suicide patterns and trends in people of Indian Subcontinent and Caribbean origin in England and Wales. *Ethnicity & Health*, 1(1), 55–63, (1996).
- 29 Maes M, Cosyns P, Meltzer HY, De-Meyer F and Peeters D. Seasonality in violent suicide but not in nonviolent suicide or homicide. *Am J Psychiatry*, 150(9), 1380–5, (1993).
- 30 McCleary R, Chew KS, Hellsten JJ and Flynn-Bransford M. Age- and sex-specific cycles in United States suicides, 1973 to 1985. *Am J Public Health*, 81(11), 1494–7, (1991).

Key points

- Men aged 25–34 and women aged 15–24 are the only groups for which suicide rates continue to rise.
- Analyses by method of suicide and occupation suggest a link between suicide and access to, and knowledge of, effective means of committing suicide.
- A fall in suicides from poisoning by other gases and vapours (principally motor vehicle exhaust gas) since the early 1990s may be due to the increasing numbers of cars fitted with catalytic converters.
- Suicide rates have decreased for all marital status groups, except the single.
- The self-inflicted death rate for men in prison doubled between 1982 and 1997.

To be or not to be - what are the odds?

John Craig
formerly OPCS

Life expectancies are averages. Among the group of people to which the average refers there will be wide variations in the length of their lives. This article quantifies these variations by looking at the chances of an early death and the chances of an exceptionally long life. Persons aged 40, for example, have an estimated average future length of life of 35 years for men and 40 years for women according to the most recent decennial English Life Tables. But some would die much sooner - 1 percent within 5 or 7 years (respectively) and 10 percent within 20 or 24 years; while at the other extreme some would live much longer - 10 percent for 49 or 53 years and 1 percent for 57 or 61 years. The article goes on to explain how these differences are related to the underlying patterns of mortality.

INTRODUCTION

The latest decennial English Life Table¹ is for 1990–92 and gives the estimated future length of life at birth, otherwise known as the life expectancy at birth, as 73 years for men and 79 years for women. The meaning and derivation of these figures are explained in Box 1 (see page 49). A key point is that they are averages derived from, and applying to, large groups of people. Averages suffice when dealing with aggregates such as a pension scheme's funding or when looking for a single figure to summarize a set of age specific mortality rates. But often some indication of the variations about the average are relevant - especially for individuals. To quote from a recent Presidential Address to the Royal Statistical Society:

'When individual members of the public are confronted by arguments about health or environmental issues the question most likely to be asked is 'how does this affect me or my immediate family?'. In so far as the statistician's answer is couched in terms of 'averages' or frequencies of occurrence calculated by reference to membership of a 'population' with which the individual does not readily identify, there will be a lack of perception of relevance on the part of the individual and a failure of communication on behalf of the statistician.'
JRSS, Series A, 1996, Vol 159, Part 3, p373.

Questions of interest to individuals are presumably on the lines of 'What are the chances I could die within the five, ten, or fifteen years?' or 'What are the chances I could live to be 90 or even 100.' Answers are easily derived from a Life Table. This article outlines some of them.

AGE AT DEATH

The ages at death of individuals in the 1990–92 Life Table used in this article are shown in Figure 1. Their estimated future length of life at birth is the arithmetic mean of these ages at death. So the Figure itself shows the variations about this mean - for a group of new-born babies who experience, throughout their lives, the mortality rates used in calculating the Life Table. The main features of the Figure are:

- the deaths are spread over a wide age-range. Only a small fraction take place at, or near, the age which equals the life expectancy of the whole group. The greatest percentage of deaths at any single year of age, for either men or women, is less than 4 per cent; and if a ten year age range around the peak is taken no more than one-third of all the deaths are included. So the majority (two-thirds) of all deaths take place at ages which differ by at least five years from the average.
- more than half the initial population lives to an age which exceeds their estimated length of life at birth. The difference is about 2½ years for both sexes. This is because in Figure 1 the tail from the peak towards the younger ages is much longer than the tail to the older ages. In technical terms the distribution is skew and so its median is greater than its arithmetic mean. Box 2 goes into more detail (see page 50).
- the graph for women differs from that for men. The shift to the right reflects womens' lower death rates and longer life expectancy. The higher peak indicates womens' deaths are more concentrated by age; and that the relative difference between men and womens' death rates declines at the oldest ages.

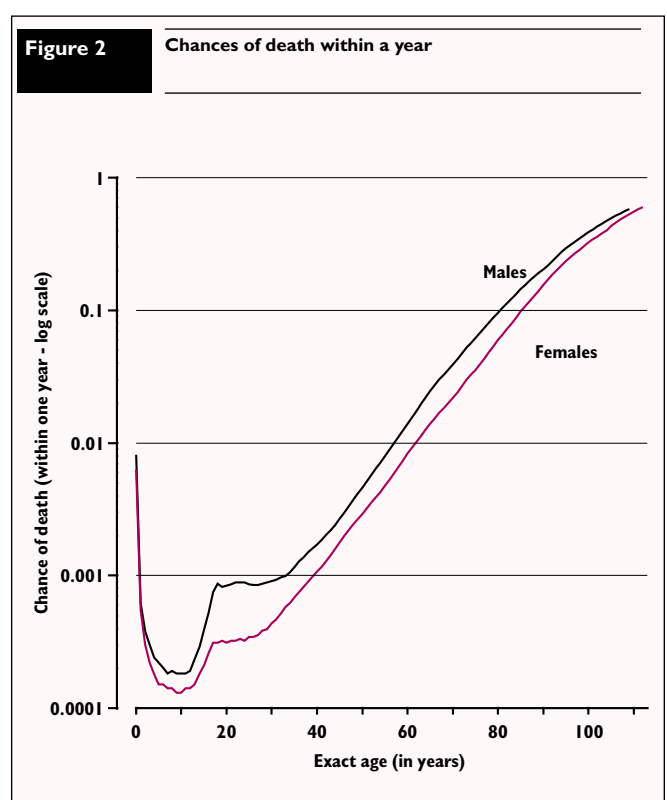
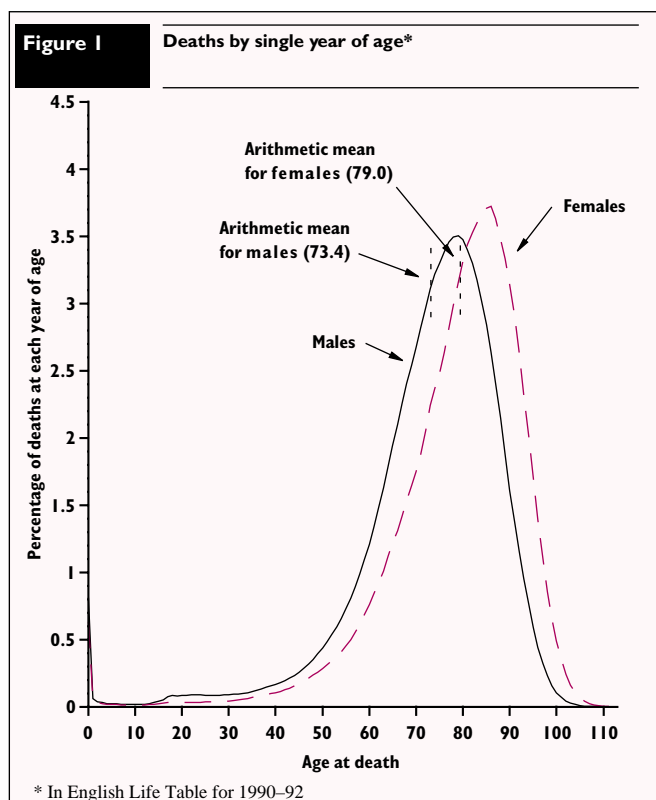
Figure 1 shows the distribution of deaths from birth. The distribution for older people will start from whatever is the age of the group; but thereafter will have the same basic shape. As an

example take a group of women aged 60. For them deaths to under 60s are irrelevant so the percentages in Figure 1 for women of 60 and over would not add up to 100 per cent. Hence all the percentages of deaths at age 60 or over would be scaled-up by a factor which adjusts for the absence of the 'tail' of younger deaths. Their absence also affects the size of the differences between the median and arithmetic mean (again see Box 2.)

THE CHANCES OF DEATH AT DIFFERENT AGES

The chances of dying within one year are derived from the pattern of deaths depicted in Figure 1. To do so the number of deaths at different ages are compared with the number of people remaining alive at successive birthdays. The chances themselves are shown in Figure 2. As would be expected the chances of death generally increase with age. The big exception is a fall in the first year of life (much of which is in the first month); there is also a much smaller fall between the ages of 1 and 9. Other exceptions are a small decline for men as they pass through their mid-twenties; and a plateau for women from ages 17 to 20. These latter exceptions are a kind of steadying down after an appreciable rise as children become young adults. Between the ages of about 40 and 80 the two lines in Figure 2 have a nearly constant upward slope; this corresponds to an increase in the chance of death of about 11 per cent with each year of age. After about 80 the rate of increase eases off a little - also the difference between the two sexes reduces.

The increases with age in the proportions dying leads to increasing numbers, and proportions, of deaths as is shown by the upward slope in Figure 1 at younger ages. Thus about 2 out of every thousand men in their early forties die each year; as already mentioned this death rate increases with each year of age by about 11 per cent. So as age rises the number of men in their forties in the Life Table population declines - despite this the number of deaths increases because the death rate is rising much more rapidly than the population is declining. However, as the death rate rises, an age



is eventually reached at which the proportion dying, and so the fall in the population, is itself about 11 per cent (see Figure 2 again). From this age onwards the drop in the size of the population at each year of age is so large that the number of deaths does decline with age. (For men this peak in the number of deaths is at age 79; and for women at age 86).

The chances shown in Figure 2 are those for one year. The chance of dying in, say, the next five years is roughly about five times the chance of dying in the next year at all but the oldest ages. However exact probabilities, over any length of time, are easily calculated from the Life Table and form the basis of the rest of this article.

THE CHANCES OF AN EARLY DEATH

The age at which a future death might be regarded as 'early' is a subjective opinion influenced by the current age of an individual, their health, occupation, and so on. Figure 3 shows, for selected ages, how the chances of death for the average individual rise as the time period lengthens. At age 60 men/women have a 0.09/0.05 chance of dying within five years; the chances of death within the next ten years are 0.22/0.13 and within twenty years are 0.59/0.39. Another way of expressing this sex differential is to say that the chances of death for men between the ages of 35 and 85 are about the same as those for women 5 years older (or vice-versa).

The scale of the vertical axis in Figure 3 emphasizes the relative, rather than the absolute, differences between the chances of death at different ages. The shape of the curves, with slopes flattening out as the length of time increases, means that the rate of increase in the proportion of the original cohort dying each year is falling with increasing age - although Figure 2 showed that for the survivors the chance of death increases with age. This apparent paradox can be understood from the pattern of deaths in Figure 1. At the older ages the numbers of deaths are falling so the rate of increase in the

proportion of the original cohort dying must be falling too. At the younger ages the numbers of deaths is rising but not steeply enough to lead to a rising overall proportion. (To see this more clearly take a group aged, say, 45. In the first 5 years a certain number die; in the next five years there are rather more deaths. So the chance of death within ten years is more than double the chance within five years. For this rate of increase to be maintained the chance of death within fifteen years - before age 60 - would need to be more than double what it was for death within ten years. Which means that the number of deaths between ages 55 and 60 would need to exceed the number of deaths between ages 45 and 55. In reality deaths do not increase at such a rapid rate).

Another approach is to take a particular probability and look at what combinations of age and length of survival it is first reached; with the corollary that at older ages and/or longer time periods the chances of death will be higher. This is the format used in Table 1. It may be salutary to see that even for people in their early thirties about one in a hundred die within ten years. The Table also makes explicit how the chances of death rise with age. The rise from a one in a hundred to a one in ten chance takes place over a roughly twenty year increase in age for each duration shown; and the rise from a one in ten chance to that of one in two takes place over the following twenty years.

The chances of death within one year across the whole age-range were shown in Figure 2. In the first year of life the chance is relatively high (1 in 125 for boys and 1 in 160 for girls). Many of these deaths occur in the first few days; the chances then fall almost daily for the first month or so. By age 1 the chance has reduced by a factor of 10 and continues to drop until at around the age of 10 a minimum is reached. Consequently the chance of a new born baby boy dying within ten years is about 1 in 94. For older children the odds lengthen rapidly as age rises and the smallest chance of death at age - whether over a one, five, or ten year period - is around the age of 10.

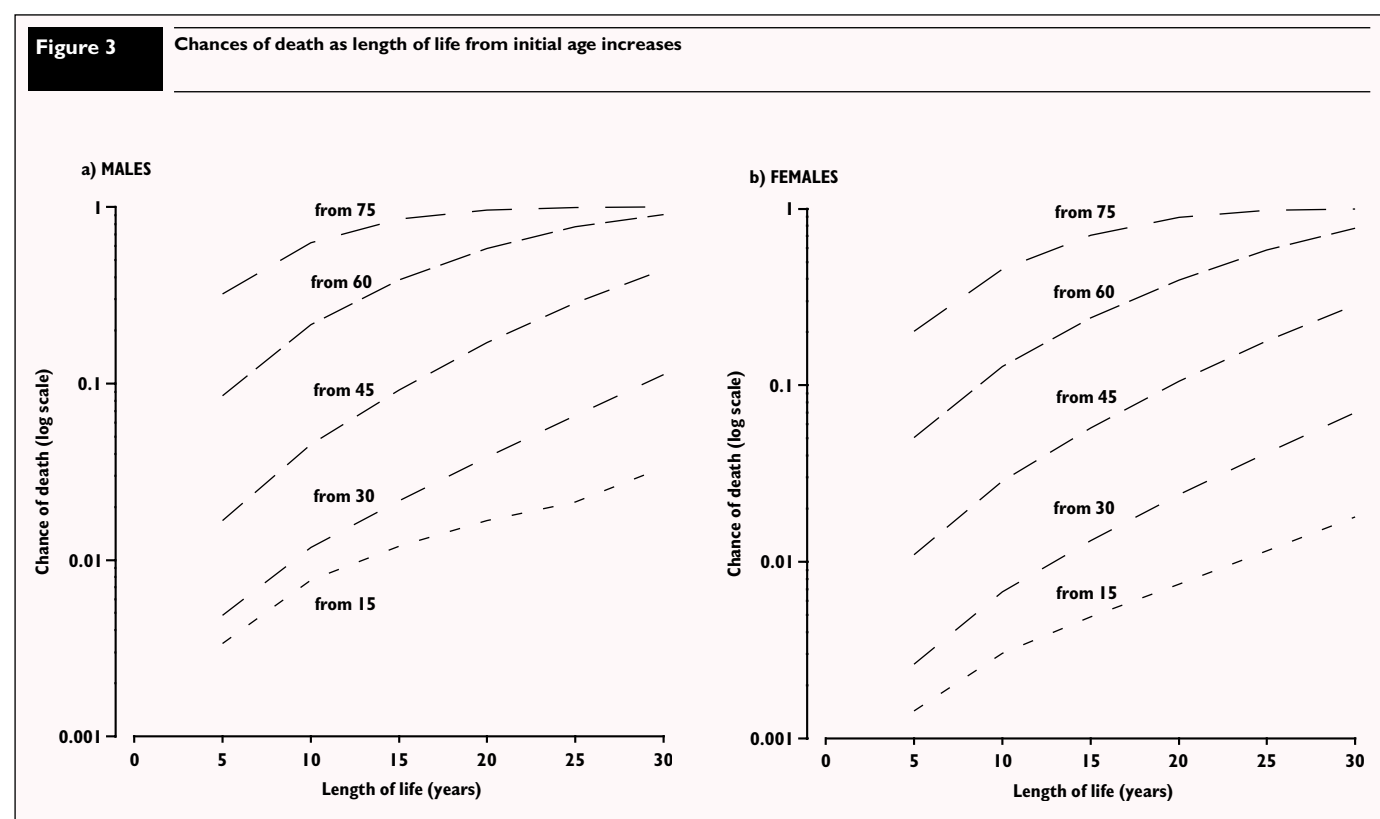


Table 1

Ages* at which some selected probabilities of death for adults are first reached

Chance of death within stated period	Death occurs within:					
	next year		next five years		next ten years	
	Men	Women	Men	Women	Men	Women
One in a hundred	58	62	40	45	28	35
One in ten	81	86	62	68	53	58
One in two	106	108	82	87	71	77

*The age given is the exact age at which the probability is first exceeded.

Figure 4 adds to Figure 3 by showing how many years it is before 1, 10, and 50 per cent, of each single year of age group, are dead. Amongst a group of 40 year old men/women 1 per cent are dead after 5/7 years, 10 per cent are dead in 20/24 years, and half live for 36/42 years. (These differences are shown on Figure 4 by the vertical line at age 40 and the corresponding horizontal intercepts on the 'Future length of life' axis). Naturally at older starting ages these time periods are reduced - and the steadily rising death rates mean they shorten at an ever increasing rate as indicated by the 'concave from below' curves.

The 50 percent line indicates an average future length of life which often does not coincide exactly with the arithmetic mean (see Box 2). As this line indicates when half of an age group has died it must be the limit for a death to be regarded as 'early'. Table 1 showed that the chances of living for ten years become less than 50 per cent (0.5) for men at age 71, and for women at age 77; the chances of living five years become less than 50 per cent for men at age 82 and for women at age 86.

THE CHANCES OF LIVING FOR AN UNUSUALLY LONG TIME

The proportions alive after an unusually long time are also shown on Figure 4. Amongst a group of 70 year old men/women, half die within 11/15 years but a minority of 10 per cent live over half as long again (for 20/24 years) and a smaller 1 percent minority for over twice as long (for nearly 28/32 years). Two points can be made about these figures. First there is the same 4 year difference between the sexes at each probability; which means that proportionately the difference between men and women is lessening as age increases. Second the difference between the future length of life for the 10 per cent and the 1 per cent of long lived individuals is 8 years for both sexes; so proportionately it is slightly less for women than for men. These patterns occur more generally. At all ages the lines for the 'long lives' are closer together, and less curved, than the equivalent percentages of 'early deaths'; showing that the relative differences for 'long lives' are not so great as for early deaths.

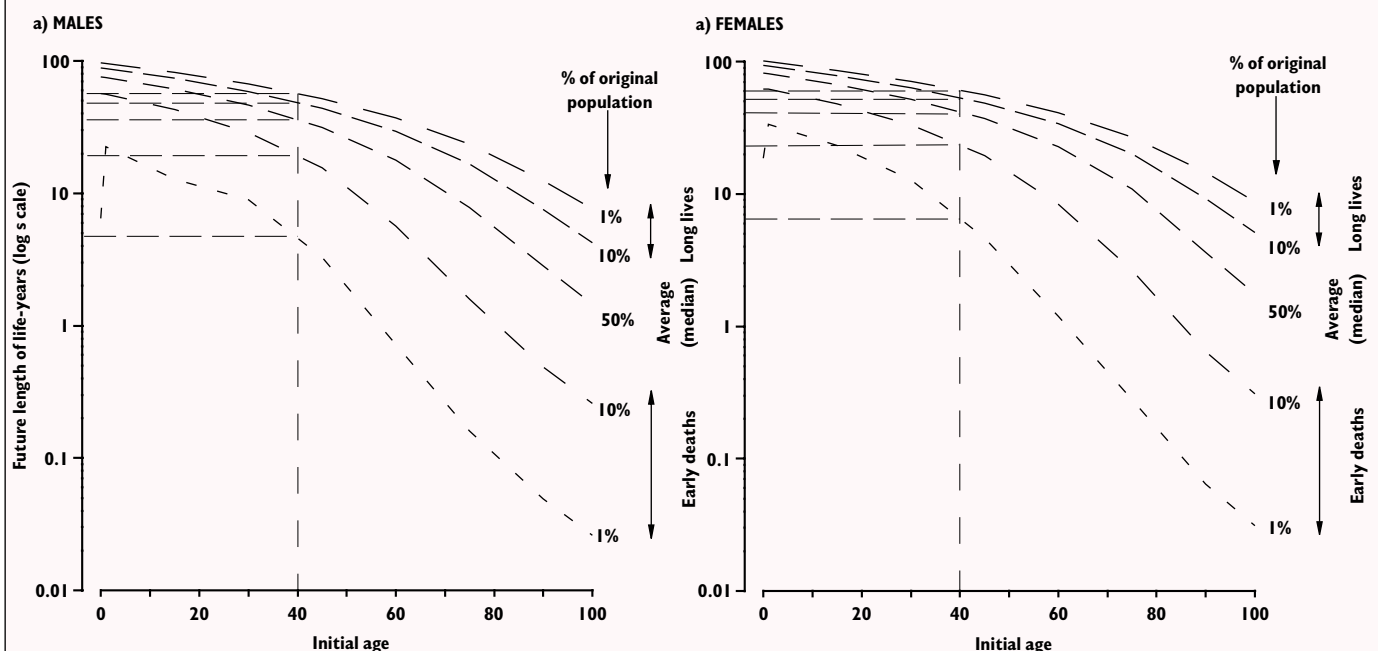
Another way to use Figure 4 is to read off the information given in Table 1 for periods other than five or ten years. But this, and the preceding analyses, have all been in terms of the future length of life. Alternatively the findings can easily be expressed as ages at death; this is done explicitly in the next section.

THE CHANCES OF REACHING PARTICULAR AGES

Figure 4 showed that for men aged 70 the chances of living to age 100 are a little less than one in a hundred; and for women aged 70 are slightly better than one in a hundred. A fuller analysis in terms

Figure 4

Future length of life for selected proportions of initial age-groups



of age at death, rather than length of life, is shown in Figure 5 both for those who die early and for those who live for an unusually long time.

Some key statistics are given in Table 2. The table shows, for example, that for a group of women aged 60 ten per cent will be dead by age 68.4, half will live to age 82.1 and a minority of ten per cent will still be alive at age 94; and so on. The striking feature of Figure 5 is that all the lines - except that for the 1 per cent of early deaths which are mainly those in early childhood - are nearly horizontal before there is much of an upswing in 'age at death'. This feature occurs because the pattern of mortality is such that the chances of reaching a specific target age do not improve rapidly until the individual is within ten or twenty years or so of the age in question; in turn this is because deaths at younger ages are

relatively few in number and survival is the norm. The odds only improve substantially when our contemporaries start to die in sizeable numbers! At birth men have an even chance of reaching age 76 (remembering this is a median - see Box 2); not until men are 68 do they have an even chance of getting to age 80. Women have an even chance of reaching age 81 at birth; but they have to be nearly 85 before their chance of reaching age 90 is evens.

The chances of becoming a centenarian are of special interest. However the odds are heavily against this until people are well into their nineties. At birth the expectation is that 1.5 per cent of baby girls - which means a 1 in 67 chance - become centenarians. This implies that not until only 15 per cent of the original babies remain alive - which happens at the age of 94 - do the odds of women becoming centenarians fall to 1 in 10; and they become evens at

Table 2

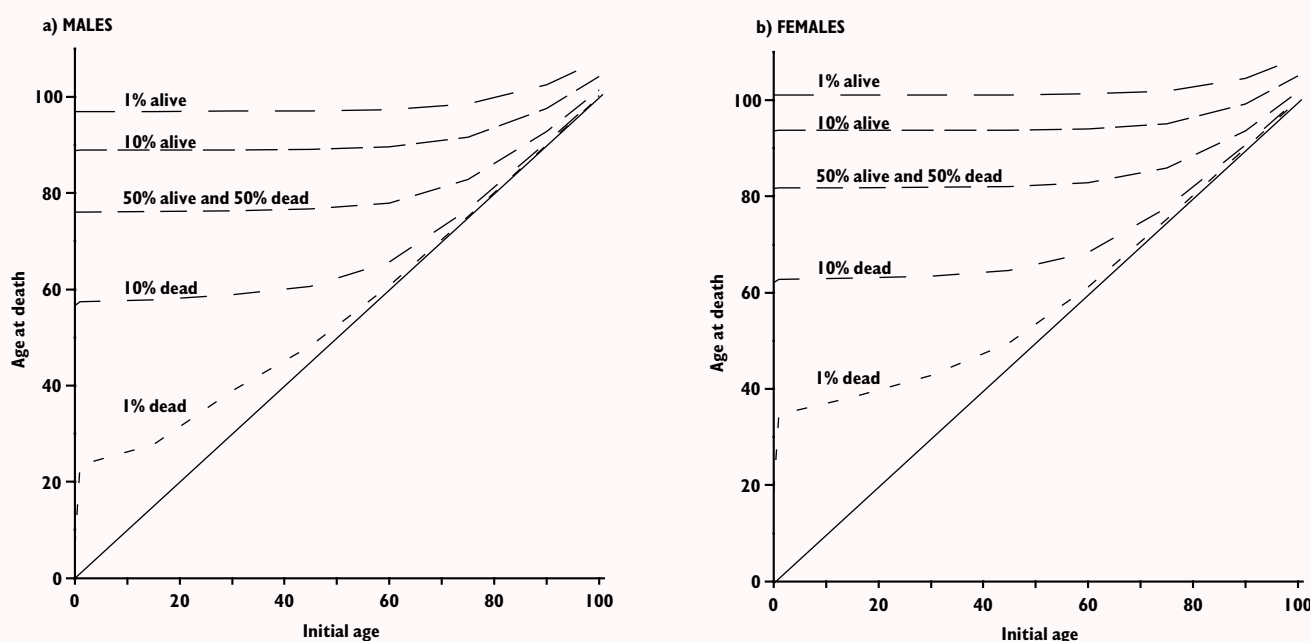
Variations in age at death - by initial age

Proportion of age-group	Initial age							
	0	1	20	40	60	70	80	90
MEN								
Early deaths								
one per cent die by	6.5	23.5	31.5	44.9	60.7	70.3	80.1	90.05
ten per cent die by	56.6	57.5	58.1	59.9	65.6	72.4	81.0	90.5
Median* age at death	76.0	76.1	76.2	76.5	77.9	80.6	85.6	92.8
Long lives								
ten per cent live to	88.9	88.9	88.9	89.0	89.6	90.7	93.1	97.6
one per cent live to	97.0	97.0	97.0	97.0	97.3	97.9	99.4	102.5
WOMEN								
Early deaths								
one per cent die by	18.6	34.7	39.8	46.9	61.2	70.5	81.46	90.1
ten per cent die by	62.1	62.8	63.2	64.0	68.4	74.0	81.78	90.6
Median* age at death	81.7	81.8	81.8	82.0	82.1	84.5	87.8	93.6
Long lives								
ten per cent live to	93.7	93.7	93.7	93.7	94.0	94.6	96.0	99.2
one per cent live to	101.0	101.1	101.1	101.1	101.3	101.6	102.4	104.6

* 50 per cent die before this age; and 50 per cent reach it.

Figure 5

Variations in age at death by initial age



age 98. For men at birth the odds are over 1 in 100 and only attain this level at age 83; the odds fall to 1 in 10 by age 94 and are even at about 98 1/2. For those who live to celebrate their hundredth birthday the likelihood is that 39/32 percent of men/women will die before their next birthday; so the median length of future life is more than one year but less than two. But not until about the ages of 106/108 do 50 per cent die within one year.

CHANCES INVOLVING TWO PEOPLE

Life tables can also be used to calculate the chances of combinations of death or survival involving two, or more, people. For example the chances of husbands dying before their wives; or children before their parents. In doing this it is almost a necessity to assume that the chance of the death to one person is not related to the chance of death to another. Complete independence is unlikely in practice as couples or families often share similar lifestyles and therefore similar risks. (Any difference that marital status, or cohabitation, makes to life expectancy is also ignored). Nevertheless a calculation using Life Tables gives a reasonable approximation. To demonstrate this take the chances of the alternative scenarios for mixed sex couples in which both the man and the woman are aged 30. (The same age is used to avoid age differences having an influence - the procedure could be repeated for any combination of ages. Apart from the 1 per cent of early deaths the findings would not differ greatly for couples under 30 since there would be few deaths before age 30). To simplify matters the effects of divorce or separation are ignored. We are simply considering survivals and deaths regardless of whether or not the couple are living together.

For couples aged 30 Table 3 shows, in Row (1), how the proportion of couples with both people still alive declines with increasing age. The decline is more rapid than that for either men or women taken separately as the chance of one or other dying is greater than the chance of the death of an individual. Row (1) shows the percentages at particular ages; alternatively taking some key percentages it is found that one percent of the couples are parted by death by age 37, and ten percent by age 55. Their median age of separation by death is nearly 72. Among the long-lived couples, there are ten percent with both individuals living to 83 and one percent with both living to 91.

Returning to Table 3 the incidence of 'first' deaths means that the proportion of the original couples with just one member alive rises (Row (2)) - until the ages are reached at which the survivors start to die in greater numbers than the numbers of new 'first' deaths. The higher mortality rates of men cause the ratio of women:men among the survivors to increase steadily with age - compare rows 2(w) and 2(m) - until there more than three women to each man at the oldest ages.

When the survivor dies the couple become 'extinct' and Row (3) of the Table shows how this proportion changes from a negligible figure at the younger ages to ultimately including everybody - with an especially rapid increase when the couples would have been in their eighties. Amongst the 'extinct' couples the difference between the sexes as to who lived longer and who died first, is small when both have died at under the age of 80 or so. The reason being that if a woman dies at such a relatively young age there is a better chance that the man will outlive her.

Another question about couples is how likely it is that the man will outlive the woman - or vice-versa. This is not the same as the sex ratio of surviving widowers and widows in Row(2) because these numbers are affected by widowers' death rates being higher than widows'; also the 'extinct' couples are omitted. Combining both types of couples (Row(4)) gives the relevant answers as the couples grow older. The ratio of the percentages in rows 4(m) and 4(w) are fairly constant; unlike their Row(2) or Row(3) equivalents. The man lives longer for slightly over one-third of the couples; this ratio rises marginally with age once again because at the oldest ages the relative difference between men and women's death rates narrows (see Figure 2) so the proportion of women who die first increases.

CHANGES OVER TIME

The Life Table used thus far has been that based on mortality rates in the early 1990s. A time series of life expectancies for other years up to 1995 is given on page 65. Mortality rates change over time; so no group of living people actually experience over a lifetime the age specific mortality patterns which prevail at a single point in time. However tables can be constructed which do summarize the actual or projected mortality experienced by a group of people of

Table 3

Deaths to couples - both initially aged 30

	When couple are - or would be - aged:						
	40	50	60	70	80	90	100
Percentages (of initial number of couples)							
1) Man and woman alive	98.2	93.9	82.6	56.5	20.9	1.6	-
2) One alive, one dead	1.8	6.0	16.6	37.8	51.7	25.2	1.8
of which:							
(m) man alive	0.7	2.3	6.2	13.2	16.1	6.4	0.3
(w) woman alive	1.2	3.7	10.4	24.6	35.5	18.8	1.5
3) Both dead	-	0.1	0.8	5.7	27.5	73.1	98.2
of which:							
(m) man lived longer	-	-	0.4	2.8	12.7	29.8	36.6
(w) woman lived longer	-	-	0.4	2.9	14.8	43.3	61.6
4) Couples with a death(s)	1.8	6.1	17.4	43.5	79.1	98.4	100.0
of which:							
(m) man lived longer	0.7	2.4	6.6	16.0	28.8	36.2	36.9
(w) woman lived longer	1.2	3.8	10.8	27.5	50.3	62.1	63.1

Row (4) = Row (2) + Row(3).

Row(1) + Row(2) + Row (3) = Row(1) + Row(4) = 100.

the same age; Box 1 gives details of these group or 'cohort' tables. Comparisons for three different generations are shown in Table 4. The generations are those born in 1910, 1950, and 1990. The comparisons are of variations in the age at death for groups of people aged 40; this birthday would be reached in 1950, 1990 and 2030 respectively.

One comparison from Table 4 is the difference between the Life Table which uses the rates for 1990–92 and that which allows for projected future changes in mortality. For the early deaths only a short time has elapsed so the difference is small; but for most people the projected improvements in mortality add an extra 4–6 years to many of the results. Or, put another way, the odds of surviving a particular length of time have improved. The 1990–92 Table showed that men aged 40 had a 10 percent chance of reaching age 89.0; the cohort table, from which Table 4 is derived, shows the same group of men have a 23 percent chance. This can only be an estimate as there is some uncertainty in projecting mortality for over 50 years ahead.

Another comparison in Table 4 is that between the generations. The difference between those aged 40 in 1990 and those reaching this age in 2030 is minimal; the projected rates for the latter are so far into the future that it has been impossible to anticipate what changes there might be from those projected for the former. In contrast there is a big improvement at all ages between the results for 1990's 40 year olds and 1950's. Taking the one percent of early deaths, for the 1950 cohort these occurred within 3.1 years; but for the 1990 cohort this had increased to 5.0 years - an increase of over one-half. Moving down the two columns the absolute difference increases steadily as the proportion surviving diminishes; this pattern is caused by the lower future mortality rates across the whole age range for the 1990 cohort.

Table 4		Variations in age at death for different generations of 40-year olds		
Proportion of age group	Year in which attained age 40*			
	1950	1990†	2030	
MEN				
Early deaths				
one per cent die by	43.1	45.0 (44.9)	45.3	
ten per cent die by	56.1	61.0 (59.9)	61.7	
Median** age at death	73.6	80.6 (76.5)	80.7	
Long lives				
ten per cent live to	88.1	94.5 (89.0)	94.6	
one per cent live to	97.4	103.2 (97.0)	103.2	
WOMEN				
Early deaths				
one per cent die by	43.8	46.9 (46.9)	47.0	
ten per cent die by	60.6	65.9 (64.0)	66.1	
Median** age at death	80.7	85.9 (82.0)	85.9	
Long lives				
ten per cent live to	95.1	99.0 (93.7)	99.0	
one per cent live to††	102.5	.. (101.1)	..	

* For those aged 40 in 1950 the mortality rates used are those they actually experienced up to the age of 80; thereafter the rates are projections. For those aged 40 in 1990 or 2030 the mortality rates used are projections.

† The figures in brackets are taken from Table 2 and show the results of using the 1990–92 mortality rates at all ages rather than the actual or projected rates for 40 year olds as they get older.

** 50 percent have died; 50 percent are still alive.

†† The two 'not available' ages for the 1 per cent of 'long lived' women are over 105. The tables could not be reliably computed after this age.

CONCLUSION

The average future length of life (life expectancy), whether it is the arithmetic mean or the median, is a key statistic but some idea of the variability that is attached to it can also be relevant. We all know that the variability exists; what this article does is to look at ways of quantifying it. But even these are based on averages for the whole population; there will be some individuals whose chances of death are much higher and some whose chances are somewhat less. In particular there will be differences between different social and ethnic groups. This is much too large a subject to include in this article but some information is available in other ONS publications.³

References

- 1 *English Life Table No 15*. The Stationery Office (1997).
- 2 Rodrigues L. and Botting B. Recent Trends in post neonatal mortality in England. *Population Trends* 55, HMSO (1989) 7–15.
- 3 Drever F and Whitehead M, Eds. *Health Inequalities*. The Stationery Office (1997).
Drever F. Whitehead M and Roden M. Current patterns and trends in male mortality by social class (based on occupation). *Population Trends* 86. HMSO (1996) 15–20.
Harding, S. Social class differences in the mortality of men: recent evidence from the OPCS Longitudinal Study. *Population Trends* 80. HMSO (1995) 31–37.
Devis, T. Measuring mortality differences by cause of death and social class defined by occupation. *Population Trends* 73. HMSO (1993) 32–35.

Box I

Life Tables

Procedure

The simplest Life Table would be calculated from the deaths occurring in a single year. In practice a period of three or five years is used to reduce the effect of random fluctuations. The basic data needed are deaths and population - analysed by age. Because the mortality experience of males and females differs it is usual to calculate separate tables. Other subdivisions of the population may also be possible.

Provided the deaths and population data are reliable a good estimate can be made of the proportion of the population of each single year of age who die within a year of their birthday. Then the cumulative effect over the whole age range can be deduced. As it is proportions that are relevant it helps to start with a large round number - by supposing, say, the initial population to be 100,000 new born live births. The proportion who die before their first birthday is known so the number of deaths and the number who survive to their first birthday are easily calculated. This process can be repeated for those who die before their second birthday; and so on up to that age (of 110 or so) when nobody is left alive. This gives a Life Table from age 0. To derive a table starting at another age is easy. The pattern of deaths and survivors from any other age is that already used in the basic table; so to start with 100,000 people at another age is only a scaling up, from the required age and upwards, of the numbers in the basic table.

Interpretation

A Life Table isolates, and summarizes, the effects of the mortality patterns used. The age structure of survivors, and of deaths, do not coincide with those of the population from which it was constructed because the latter are the consequence of fertility and migration, as well as mortality, patterns over a hundred years or so. In this sense the Table relates to a hypothetical population.

Mortality rates are not usually constant but change over time. Nowadays, at most ages, the rates tend to fall over time. So most of us should have slightly longer life expectancies, better chances of living an unusually long time, and less likelihood of dying early than implied by today's mortality rates. To allow for such changes in mortality a Cohort Life Table which relates to a group of people born in a particular year can be constructed. This is done by considering their past age-specific mortality rates at each year of age from birth up to their current age; at older ages assumptions must be made about future mortality rates. Each calendar year (of birth) then has its own table; again the starting age can easily be changed and there will be a separate tables for those reaching this age in each calendar year. Some illustrative results are given in Table 4.

Life Table analyses are only valid for a people whose health and life-style can be regarded as average. While sub-groups at exceptionally high risk can be identified - from their poor state of health or from their hazardous occupation or whatever - it would be difficult to assess exactly how much difference this would make.

Terminology

When Life Tables were first calculated mortality from the recent past was used as a guide to mortality, or population structure, in the future. At that time this was logical since there was no reason to expect either a long term improvement or deterioration in mortality patterns. So the results of the calculations were indeed what could be 'expected' in the future. This terminology was encouraged by the fact that the arithmetical thinking had been developed originally to deal with calculating the odds in games of chance. Today, for period life tables, it is not strictly accurate to regard the results as expectations; as explained above cohort tables are a better guide. So the use of the word 'expectation' has been minimized in the article.

Box 2

The Arithmetic Mean and Median

Both the Arithmetic Mean and Median are reputable averages. But for a distribution which is not symmetrical, as in Figure 1, they differ because they answer slightly different questions and are calculated differently. Figure 1 has a longer tail, from the peak, towards the younger ages than towards the older ages; some deaths occur at ages over 70 years younger than the peak while none are at ages over 40 years older. The arithmetic mean takes into account the actual ages at death of all the individuals. Whereas the median is simply that age at which there as many deaths at younger ages as there are at older ages; that some are 70 years younger but none are more than 40 years older is of no consequence. Accordingly the arithmetic mean of the ages at death in Figure 1 is, in a way, more affected by the deaths at the very young ages; and so is less than the median. However for older ages the long tail to the younger ages is first reduced, then eliminated, and eventually reversed. The differences between the two averages reflect this changeover as is evident in Table 5.

Table 5		Average future length of life from selected ages - median and arithmetic mean							
		Initial age							
Sex		0	1	20	40	60	70	80	90
Men									
Median		76.0	75.1	56.2	36.5	17.9	10.6	5.6	2.8
Mean		73.4	73.0	54.5	35.3	17.9	11.2	6.4	3.5
Difference		2.6	2.1	1.8	1.2	0.1	-0.6	-0.8	-0.7
Women									
Median		81.7	80.8	61.8	42.0	22.8	14.5	7.8	3.6
Mean		79.0	78.5	59.7	40.2	22.1	14.5	8.4	4.4
Difference		2.7	2.3	2.1	1.7	0.8	0.0	-0.6	-0.7

At birth the median exceeds the mean by just over 2½ years for both men and women. Consequently more than half of the men/ women (58/59 percent) live to an age which equals the arithmetic mean. If the calculations start from older ages the difference declines; about age 60 or 70 the distributions are fairly symmetrical. Subsequently the median is less than the arithmetic mean; and at ages 80 and over the proportionate differences in Table 5 are larger than at the very young ages.

The two measures answer slightly different questions. The arithmetic mean is directly connected with the total number of years of life which a group of people can be expected to live; this is the appropriate approach for annuities or pensions when the small number of people living a very long time are important. The median relates to the proportions alive - or dead - after specified periods of time and so is appropriate for calculations of the chance of being alive or dead. In 1693 Edmund Halley, who besides discovering the comet was the first person to properly compute a life table, wrote:

‘Use III. But if it be enquired at what number of Years, it is an even Lay that a Person of any Age shall die, this Table readily performs it: For if the number of Persons living of the Age proposed be halved, it will be found by the Table at what Year the said number is reduced to half by Mortality; and that is the Age, to which it is an even Wager, that a Person of the Age proposed shall arrive before he die’
Edmund Halley, *Philisophical Transactions XVII*. Reproduced in ‘*Mathematical Demography: selected papers*’ by D Smith and N Keyfitz, p24.

Halley went on to give an example. He found that ‘a man of 30 may reasonably expect to live between 27 and 28 years.’ Today the comparable figure is between 46 and 47 years.

Tables

		table	page
Population			
International	Selected countries	1	52
National	Constituent countries of United Kingdom	2	54
Subnational	Health regions of England	3	54
Subnational	Government Office Regions of England	4	55
Components of population change	Constituent countries of United Kingdom	5	56
Age and sex	Constituent countries of United Kingdom	6	57
Age, sex and marital status	England and Wales	7	59
Vital statistics			
Summary	Constituent countries of United Kingdom	8	60
Live births			
Age of mother	England and Wales	9	62
Outside marriage: age of mother and type of registration	England and Wales	10	62
Inside marriage: age of mother and birth order	England and Wales	11	63
Conceptions			
Age of women at conception	England and Wales	12	64
Expectation of life			
(in years) at birth and selected ages	Constituent countries of United Kingdom	13	65
Deaths			
Age and sex	England and Wales	14	66
Subnational	England	15	67
Selected causes and sex	England and Wales	16	68
Abortions			
Marital status, age, and gestation weeks	England and Wales	17	70
International migration			
Age and sex	United Kingdom	18	71
Country of last or next residence	United Kingdom	19	72
Citizenship	United Kingdom	20	73
Internal migration			
Movements within the United Kingdom	United Kingdom	21	74
Marriage and divorce			
First marriage: age and sex	England and Wales	22	75
Remarriages: age, sex and previous marital status	England and Wales	23	76
Divorce: age and sex	England and Wales	24	77

Please note: The introduction of Government Office Regions (GOR's) has made it necessary to change the order of the subnational population tables.

Subnational population by New Health Regions of England (Regional Offices) is now Table 3. Subnational population by Government Office Regions of England is now Table 4. Government Office Regions are also shown in Table 21. A map showing GOR's appears on page 81.

Table I	Population and vital rates: international														
Year	United Kingdom (1)	Austria (2)	Belgium (2)	Denmark (2)	Finland (2)	France (2)	Germany (Fed. Rep) (2)*	Germany (2)†	Greece (2)	Irish Republic (2)	Italy (2)	Luxembourg (2)	Netherlands (2)	Portugal (2)	
Population** (thousands)															
1971	55,928	7,501	9,673	4,963	4,612	51,251	61,302	78,352	8,831	2,978	54,074	342	13,195	8,644	
1976	56,216	7,566	9,811	5,073	4,726	52,909	61,531	78,321	9,167	3,228	55,718	361	13,774	9,355	
1981	56,352	7,569	9,859	5,122	4,800	54,182	61,682	78,419	9,729	3,443	56,510	365	14,247	9,851	
1986	56,852	7,588	9,862	5,121	4,918	55,547	61,066	77,694	9,967	3,541	56,596	368	14,572	10,011	
1991	57,808	7,818	10,005	5,154	5,014	57,055	64,074	80,014	10,247	3,526	56,751	387	15,070	9,871	
1993	58,191	7,989	10,085	5,189	5,066	57,654	65,534	81,156	10,380	3,574	57,049	398	15,290	9,881	
1994	58,395	8,028	10,116	5,205	5,089	57,899	65,858	81,438	10,426	3,587‡	57,204	404	15,383	9,902	
1995	58,606	8,047	10,137	5,228	5,108	58,137‡	66,715	81,678	10,454	3,605‡	57,301	410	15,459	9,917	
1996	58,801	8,059	10,157	5,262	5,125	58,374‡			10,475	3,626‡	57,397	416	15,531	9,927	
Population changes (per 1,000 per annum)															
1971-76	1.0	1.7	2.9	4.4	4.9	6.5	0.7	-0.1	7.6	16.8	6.1	10.7	8.8	16.5	
1976-81	0.5	0.1	1.0	1.9	3.1	4.8	0.5	0.3	12.3	13.3	2.8	2.5	6.9	10.6	
1981-86	1.8	0.5	0.1	0.0	4.9	5.0	-2.0	-1.8	4.9	5.7	0.3	1.8	4.6	3.2	
1991-92	3.4	12.3	4.1	3.2	5.6	5.6	12.3	7.6	7.3	8.8	1.9	13.9	7.6	-0.4	
1992-93	3.2	9.3	3.9	3.7	4.8	4.9	10.3	6.6	5.6	4.8	3.4	14.3	7.0	1.4	
1993-94	3.5	4.9	3.1	3.0	4.4	4.2	4.9	3.5	4.5	3.9‡	2.7	14.3	6.1	2.2	
1994-95	3.6	2.4	2.1	4.4	3.7	4.1‡	13.0	2.9	2.7	5.0‡	1.7	14.6	4.9	1.4	
1995-96	3.3	1.6	1.9	6.4	3.3	4.1‡			2.0	5.8‡	1.7	14.4	4.6	1.1	
Live birth rate (per 1,000 per annum)															
1971-75	14.1	13.3	13.4	14.6	13.1	16.0	10.8	10.5	15.8	22.2	16.0	11.6	14.9	20.3	
1976-80	12.5	11.5	12.5	12.0	13.6	14.1	9.7	10.5	15.6	21.3	12.6	11.2	12.6	17.9	
1981-85	12.9	12.0	12.0	10.2	13.4	14.2	9.8	10.7	13.3	19.2	10.6	11.6	12.2	14.5	
1991	13.7	12.1	12.6	12.5	13.0	13.3	11.3	10.4	10.1	15.0	9.9	12.9	13.2	11.8	
1993	13.1	11.9	12.0‡	13.0	12.8	12.3	11.0	9.9	9.8	13.8	9.6	13.4	12.8	11.5	
1994	12.9	11.5	11.5‡	13.4	12.8	12.3	10.5	9.5	10.0	13.4‡	9.3	13.5	12.7	11.0	
1995	12.5	11.0	11.4‡	13.4	12.3	12.5‡	10.2	9.4	9.7	13.5‡	9.1‡	13.2	12.3	10.8	
1996	12.5	11.0	11.4‡	12.9‡	11.8	12.6‡	10.6‡	9.7‡	9.7‡	13.9‡	9.2‡	13.7	12.2‡	11.1	
1997	12.4‡														
Death rate (per 1,000 per annum)															
1971-75	11.8	12.6	12.110.1	9.510.7	11.9	12.38.6	11.09.8	12.28.3	11.0						
1976-80	11.9	12.3	11.610.5	9.310.2	11.7	12.28.8	10.29.7	11.58.1	10.1						
1981-85	11.7	12.0	11.411.1	9.310.1	11.6	12.09.0	9.49.5	11.28.3	9.6						
1991	11.3	10.7	10.511.6	9.89.2	11.1	11.49.3	8.99.7	9.78.6	10.5						
1993	11.3	10.3	10.7‡	12.1	10.1	9.2	10.9	11.1	9.4	8.7	9.7	9.8	9.0	10.7	
1994	10.7	10.0	10.4‡	11.7	9.4	9.0	10.7	10.9	9.4	8.6‡	9.6‡	9.4	8.7	10.0	
1995	10.9	10.1	10.5‡	12.1	9.6	9.2‡	10.6	10.8	9.6	8.8‡	9.5‡	9.3	8.8	10.4	
1996	10.9	10.0	10.4‡	11.6‡	9.6	9.2‡	10.7‡	10.8‡	9.6‡	8.7‡	9.5‡	9.4	8.9‡	10.8	
1997	10.7‡														

* Excluding former GDR throughout.

† Including former GDR throughout.

** Populations estimated as follows.

‡ Provisional

≠ Estimates prepared by the Population Division of the United Nations

+ Rates are for 1990-95

(1) At 30 June.

(2) Average of populations at start and end of year as given in Council of Europe report. *Recent demographic developments in Europe 1997*.

(3) EU as constituted 1 January 1986 and including countries subsequently admitted.

(4) At 1 June.

(5) At 31 December.

(6) At 1 July for 1971, 1976 and 1987; at 1 March for 1981; UN estimates for 1983-5, data not comparable with other years.

(7) At 1 October. (rates for Japan are based on population of Japanese nationality only.)

Table I
continued

Spain (2)	Sweden (2)	European Union (3)	Russian Federation(2)	Australia (1)	Canada (4)	New Zealand (5)	China (5)	India (6)	Japan (7)	USA (1)	Year
34,190	8,098	342,631		13,067	22,026	2,899	852,290	551,311	105,145	207,661	Population** (thousands) 1971
35,937	8,222	350,384		14,033	23,517	3,163	943,033≠	617,248	113,094	218,035	1976
37,742	8,321	356,511	139,422	14,923	24,900	3,195	1,011,219≠	676,218	117,902	230,138	1981
38,537	8,370	359,543	144,475	16,018	26,204	3,317	1,086,733≠	767,199	121,672	240,680	1986
38,920	8,617	366,256	148,624	17,284	28,120	3,450	1,170,052≠	851,661	123,102	252,177	1991
39,086	8,719	369,706‡	148,520	17,667	28,947	3,556	1,190,360≠	833,910	123,788	257,783	1993
39,150	8,781	371,005‡	148,336	17,855	29,256	3,604	1,208,841≠	918,570≠	124,069	260,341	1994
39,210	8,827	372,122‡	148,141	18,072	29,615	3,658	1,221,462≠	935,744≠	124,299	262,755	1995
39,270	8,841		147,739	18,311	29,964‡	3,716			124,709	265,284	1996
											Population changes (per 1,000 per annum)
10.2	3.1	4.5		14.8	13.5	18.2	19.9	23.9	15.1	10.0	1971-76
10.0	2.4	3.5		12.7	11.8	2.0	15.2	18.8	8.5	10.9	1976-81
4.2	1.2	1.7	7.2	14.7	10.5	7.6	15.5	27.3	6.4	9.3	1981-86
2.3	5.9	4.9‡	0.4	12.2	15.0	19.0	11.6	19.0	3.0	11.5	1991-92
2.0	5.8	4.5‡	-1.1	9.9	14.2	11.5	5.7	18.5	2.5	10.6	1992-93
1.6	7.1	3.5‡	-1.2	10.6	10.7	13.5	15.5	39.2	2.3	9.9	1993-94
1.5	5.3	3.0‡	-1.3	12.2	12.3	15.0	10.4	18.7	1.9	9.3	1994-95
1.5	1.6		-2.7	13.2	11.8‡	15.8			3.3	9.6	1995-96
											Live birth rate (per 1,000 per annum)
19.2	13.5	14.7		18.8	15.9	20.4	27.2	35.6	18.6	15.3	1971-75
17.1	11.6	13.1		15.7	15.5	16.8	18.6	33.4	14.9	15.2	1976-80
12.8	11.3	12.2		15.6	15.1	15.8	19.2	..	12.6	15.7	1981-85
10.2	14.3	11.7	12.1	14.9	14.3	17.4		29.5	9.9	16.3	1991
9.9	13.5	11.2‡	9.3	14.7	13.4	16.6	18.5+	28.7	9.6	15.5	1993
9.5	12.8	10.9‡	9.5	14.5	13.2	15.9		28.6	10.0	15.2	1994
9.2‡	11.7	10.7‡	9.2	14.2	12.8	15.8			9.6	14.8	1995
9.0‡	10.8			13.9		15.5			9.7	14.8‡	1996
											1997
											Death rate (per 1,000 per annum)
8.5	10.5	10.8		8.2	7.4	8.4	7.3	15.5	6.4	9.1	1971-75
8.0	10.9	10.6		7.6	7.2	8.2	6.6	13.8	6.1	8.7	1976-80
7.7	11.0	10.4		7.3	7.0	8.1	6.7	..	6.1	8.6	1981-85
8.6	11.0	10.2	11.4	6.9	7.0	7.7		9.8	6.7	8.6	1991
8.7	11.1	10.2‡	14.3	6.8	7.1	7.7	7.2+	9.3	7.1	8.8	1993
8.6	10.5	9.9‡	15.5	7.1	7.1	7.5		9.2	7.1	8.8	1994
8.7‡	10.6	10.0‡	14.9	6.9	7.1	7.6			7.4	8.8	1995
8.6‡	10.6			7.0		7.6			7.2	8.8‡	1996
											1997

See notes opposite

Table 2		Population: national Constituent countries of the United Kingdom							thousands
Mid-year		United Kingdom	Great Britain	England and Wales	England	Wales	Scotland	Northern Ireland	
Estimates									
1971		55,928	54,388	49,152	46,412	2,740	5,236	1,540	
1976		56,216	54,693	49,459	46,660	2,799	5,233	1,524	
1981		56,352	54,815	49,634	46,821	2,813	5,180	1,538	
1986		56,852	55,285	50,162	47,342	2,820	5,123	1,567	
1991		57,808	56,207	51,100	48,208	2,891	5,107	1,601	
1993		58,191	56,559	51,439	48,533	2,906	5,120	1,632	
1994		58,395	56,753	51,621	48,707	2,913	5,132	1,642	
1995		58,606	56,957	51,820	48,903	2,917	5,137	1,649	
1996		58,801	57,138	52,010	49,089	2,921	5,128	1,663	
of which (percentages)									
0-4		6.4	6.4	6.4	6.4	6.1	6.1	7.5	
5-15		14.2	14.1	14.1	14.1	14.5	13.9	17.5	
16-44		41.0	41.0	40.9	41.0	38.5	41.8	42.1	
45-64M/59F†		20.3	20.4	20.4	20.3	21.0	20.3	18.0	
65M/60F-74†		11.0	11.1	11.0	11.0	12.2	11.3	9.6	
75 and over		7.1	7.2	7.2	7.2	7.8	6.5	5.4	
Projections*									
2001		59,618	57,924	52,818	49,871	2,947	5,106	1,694	
2006		60,287	58,576	53,492	50,526	2,966	5,084	1,711	
2011		60,929	59,209	54,151	51,161	2,989	5,059	1,720	
2016		61,605	59,880	54,849	51,832	3,017	5,031	1,725	
2021		62,244	60,519	55,526	52,484	3,043	4,993	1,724	
of which (percentages)									
0-4		5.6	5.6	5.6	5.6	5.6	5.3	5.8	
5-15		12.2	12.1	12.2	12.2	12.4	11.8	13.1	
16-44		35.7	35.7	35.8	35.8	35.2	34.6	36.7	
45-64†		27.3	27.3	27.2	27.3	26.2	28.7	27.0	
65-74†		10.6	10.6	10.6	10.5	11.3	11.1	9.6	
75 and over		8.6	8.6	8.7	8.6	9.4	8.5	7.7	

* These projections are based on the mid-1996 population estimates.

† Between 2010 and 2020, state retirement age will change from 65 years for men and 60 years for women, to 65 years for both sexes.

Table 3		Population: subnational							
		New health regions of England (Regional Offices)*							thousands
Mid-year		Northern and Yorkshire +	Trent +	Anglia and Oxford	North Thames	South Thames	South and West	West Midlands	North West
Estimates									
1971		6,482	4,483	4,272	6,914	6,642	5,569	5,146	6,903
1976		6,512	4,557	4,531	6,695	6,567	5,789	5,178	6,832
1981		6,550	4,608	4,745	6,598	6,489	5,988	5,187	6,657
1986		6,519	4,634	4,980	6,652	6,567	6,224	5,197	6,570
1991		6,600	4,720	5,175	6,742	6,680	6,426	5,266	6,600
1993		6,638	4,766	5,228	6,793	6,716	6,487	5,290	6,617
1994		6,647	4,781	5,262	6,831	6,746	6,529	5,295	6,616
1995		6,649	4,796	5,315	6,872	6,781	6,569	5,306	6,614
1996		6,338	5,121	5,361	6,934	6,819	6,594	5,317	6,605
of which (percentages)									
0-4		6.3	6.3	6.5	6.9	6.5	5.9	6.5	6.4
5-15		14.4	14.0	14.3	13.7	13.4	13.6	14.6	14.8
16-44		40.5	40.4	41.6	44.0	41.5	39.1	40.2	40.3
45-64M/59F		20.4	20.7	20.7	19.2	20.0	20.9	20.8	20.4
65M/60F-74		11.4	11.4	10.3	9.7	10.7	11.9	11.2	11.1
75 and over		7.0	7.2	6.7	6.5	7.9	8.5	6.8	7.0
Projections*									
2001		6,746	4,912	5,591	7,031	6,901	6,771	5,375	6,694
2006		6,792	4,989	5,783	7,170	7,002	6,922	5,418	6,735
2011		6,824	5,054	5,949	7,269	7,081	7,056	5,453	6,771
of which (percentages)									
0-4		5.8	5.9	6.1	6.6	6.0	5.5	6.2	6.2
5-14		12.4	12.5	13.1	12.9	12.4	11.9	13.0	13.1
15-44		39.5	40.2	40.3	43.3	40.3	38.1	39.8	39.9
45-64M/59F		22.8	22.3	22.7	21.1	22.3	23.0	22.2	22.2
65M/60F-74		11.7	11.3	10.7	9.6	10.9	12.1	11.2	11.2
75 and over		7.9	7.8	7.1	6.5	8.1	9.3	7.5	7.4

* Areas as constituted in 1996. Population figures for years before 1981 may relate to different areas where boundaries have changed.

+ From 1 April 1996 boundary changes due to local government reorganisation has led to changes in the constitution of the Northern and Yorkshire and Trent health regions. South Humber health authority with 311.3 thousand people - mid 1996 is now included in the Trent region rather than in the Northern and Yorkshire region.

Table 4

Population: subnational

Government Office Regions of England*

thousands

Mid-year	North East	North West and Mersey-side	North West	Mersey-side	Yorkshire and the Humber	East Midlands	West Midlands	Eastern	London	South East	South West
Estimates											
1971	2,679	7,108	5,446	1,662	4,902	3,652	5,146	4,454	7,529	6,830	4,112
1976	2,671	7,043	5,457	1,586	4,924	3,774	5,178	4,672	7,089	7,029	4,280
1981	2,636	6,940	5,418	1,522	4,918	3,853	5,187	4,854	6,806	7,245	4,381
1986	2,601	6,852	5,381	1,471	4,906	3,919	5,197	5,012	6,803	7,492	4,560
1991	2,603	6,885	5,436	1,450	4,983	4,035	5,265	5,150	6,890	7,679	4,718
1993	2,612	6,903	5,462	1,441	5,014	4,083	5,290	5,193	6,933	7,737	4,768
1994	2,610	6,902	5,468	1,434	5,025	4,102	5,295	5,223	6,968	7,784	4,798
1995	2,605	6,900	5,473	1,427	5,029	4,124	5,306	5,257	7,007	7,847	4,827
1996	2,600	6,891	5,471	1,420	5,036	4,141	5,317	5,293	7,074	7,895	4,842
of which (percentages)											
0-4	6.2	6.4	6.4	6.3	6.4	6.2	6.5	6.4	7.1	6.3	5.8
5-15	14.4	14.7	14.7	14.9	14.3	14.1	14.6	13.9	13.4	13.9	13.5
16-44	40.4	40.2	40.2	40.3	40.7	40.4	40.2	40.3	46.1	40.4	38.5
45-64M/59F	20.4	20.5	20.7	19.8	20.2	20.9	20.8	21.0	18.1	20.9	21.0
65M/60F-74	11.8	11.2	11.0	11.6	11.2	11.2	11.2	11.1	9.1	10.9	12.3
75 and over	6.7	7.0	7.0	7.1	7.2	7.1	6.8	7.3	6.2	7.7	8.9
Projections†											
2001	2,616	6,986	5,559	1,427	5,116	4,270	5,375	5,448	7,170	8,035	5,006
2006	2,610	7,029	5,611	1,418	5,165	4,372	5,417	5,583	7,313	8,189	5,135
2011	2,601	7,066	5,657	1,409	5,205	4,459	5,453	5,700	7,407	8,320	5,248
Average	2,609	7,027	5,609	1,418	5,162	4,367	5,415	5,577	7,297	8,182	5,130
of which (average totals)											
0-4	126	434	347	87	308	261	338	331	498	469	283
5-15	297	1,011	809	202	717	613	777	776	1,044	1,116	671
16-44	836	2,702	2,153	548	1,997	170	2,085	2,126	3,207	3,073	1,881
45-64M/45-59F	524	1,565	1,253	312	1,151	977	1,203	1,267	1,488	1,897	1,176
65M/60F-74	273	791	631	160	585	483	608	634	630	946	625
75 and over	177	526	416	110	403	329	404	442	429	681	494
(percentages)											
0-4	4.8	6.2	6.2	6.1	6	6	6.2	5.9	6.8	5.7	5.5
5-15	11.4	14.4	14.4	14.2	13.9	14	14.4	13.9	14.3	13.6	13.1
16-44	32.1	38.4	38.4	38.6	38.7	3.9	38.5	38.1	44	37.6	36.7
45-64M/45-59F	20.1	22.3	22.3	22	22.3	22.4	22.2	22.7	20.4	23.2	22.9
65M/60F-74	10.5	11.3	11.2	11.3	11.3	11.1	11.2	11.4	8.6	11.6	12.2
75 and over	6.8	7.5	7.4	7.7	7.8	7.5	7.5	7.9	5.9	8.3	9.6

* For a breakdown of Government Office Regions, see map on page xx.

† These projections are based on the mid-1993 projection estimates.

Table 5

Components of population change
 Constituent countries of the United Kingdom

thousands

Mid-year to mid-year	Population at start of period	Total annual change	Components of change (mid-year to mid-year or annual averages)							Other changes	Population at end of period
			Live births	Deaths	Natural change	Net civilian migration		To/from rest of UK	To/from Irish Republic	Beyond British Isles	
United Kingdom											
1971-76	55,928	+ 58	766	670	+ 96	- 55	—	—	- 55	+ 16	56,216
1976-81	56,216	+ 27	705	662	+ 42	- 33	—	—	- 33	+ 18	56,352
1991-92	57,808	+199	793	639	+154	+ 45	—	—	+ 45	- 1	58,006
1992-93	58,006	+185	764	635	+130	+ 43	—	—	+ 43	+ 12	58,191
1993-94	58,191	+203	763	652	+111	+ 74	—	—	+ 74	+ 18	58,395
1994-95	58,395	+211	738	632	+106	+108	—	—	+108	- 3	58,606
1995-96	58,606	+196	723	646	+ 77	+110	—	—	+110	+ 8	58,801
1996-97	58,801										
Great Britain											
1971-76	54,388	+ 61	738	653	+ 85	- 42	+ 7	—	- 48	+ 17	54,693
1976-81	54,693	+ 24	678	646	+ 32	- 25	+ 4	—	- 29	+ 18	54,815
1991-92	56,207	+182	767	624	+143	+ 42	- 2	—	+ 44	- 3	56,388
1992-93	56,388	+171	739	620	+120	+ 40	- 1	—	+ 40	+ 12	56,559
1993-94	56,559	+194	738	636	+102	+ 73	+ 2	—	+ 72	+ 18	56,753
1994-95	56,753	+204	714	616	+ 97	+108	+ 1	—	+107	- 1	56,957
1995-96	56,957	+181	699	630	+ 69	+104	- 3	—	+107	+ 8	57,138
1996-97	57,138										
England and Wales											
1971-76	49,152	+ 61	644	588	+ 76	- 28	+10	- 9	- 29	+ 13	49,459
1976-81	49,459	+ 35	612	582	+ 30	- 9	+11	- 3	- 17	+ 14	49,634
1991-92	51,100	+177	700	563	+137	+ 41	-12	- 6	+ 58	- 1	51,277
1992-93	51,277	+162	675	558	+117	+ 35	- 8	- 2	+ 45	+ 10	51,439
1993-94	51,439	+181	675	574	+102	+ 63	- 6	+ 1	+ 68	+ 16	51,621
1994-95	51,621	+200	653	557	+ 96	+104	+ 1	+ 1	+102	- 1	51,820
1995-96	51,820	+190	640	569	+ 71	+110	+ 3	- 1	+108	+ 9	52,010
1996-97	52,010										
England											
1971-76	46,412	+ 50	627	552	+ 75	- 35	+ 1	- 9	- 27	+ 10	46,660
1976-81	46,660	+ 32	577	546	+ 31	- 11	+ 6	- 3	- 15	+ 12	46,821
1991-92	48,208	+170	662	529	+133	+ 40	-15	- 5	+ 60	- 2	48,378
1992-93	48,378	+154	638	524	+114	+ 32	-11	- 2	+ 45	+ 8	48,533
1993-94	48,533	+175	638	538	+100	+ 59	- 8	+ 1	+ 67	+ 15	48,707
1994-95	48,707	+196	618	522	+ 96	+100	—	+ 1	+ 99	—	48,903
1995-96	48,903	+186	606	534	+ 72	+104	+ 1	- 1	+104	+ 9	49,089
1996-97	49,089										
Wales											
1971-76	2,740	+ 12	37	36	+ 1	+ 7	+10	—	- 2	+ 3	2,799
1976-81	2,799	+ 3	35	36	- 1	+ 2	+ 5	—	- 2	+ 2	2,813
1991-92	2,891	+ 7	38	34	+ 4	+ 2	+ 4	—	- 2	+ 1	2,899
1992-93	2,899	+ 8	37	34	+ 3	+ 3	+ 3	—	—	+ 2	2,906
1993-94	2,906	+ 7	37	36	+ 1	+ 4	+ 3	—	+ 2	+ 1	2,913
1994-95	2,913	+ 4	35	34	+ 1	+ 4	+ 1	—	+ 2	—	2,917
1995-96	2,917	+ 4	34	35	- 1	+ 6	+ 1	—	+ 5	—	2,921
1996-97	2,921										
Scotland											
1971-76	5,236	—	73	64	+ 9	- 14	- 4	—	- 10	+ 4	5,233
1976-81	5,233	- 11	66	64	+ 2	- 16	- 7	—	- 10	+ 4	5,180
1991-92	5,107	+ 4	67	61	+ 6	—	+10	—	- 9	- 2	5,111
1992-93	5,111	+ 9	64	62	+ 2	+ 5	+ 7	—	- 2	+ 2	5,120
1993-94	5,120	+ 12	63	63	+ 1	+ 10	+ 7	—	+ 3	+ 2	5,132
1994-95	5,132	+ 4	61	60	+ 1	+ 4	—	—	+ 4	—	5,137
1995-96	5,137	- 9	59	61	- 2	- 6	- 5	—	- 1	- 1	5,128
1996-97	5,128										
Northern Ireland											
1971-76	1,540	- 3	28	17	+ 11	- 14	- 7	—	- 7	- 1	1,524
1976-81	1,524	+ 3	27	17	+ 10	- 8	- 4	—	- 3	—	1,538
1991-92	1,601	+ 17	26	15	+ 11	+ 4	+ 2	—	+ 2	+ 2	1,618
1992-93	1,618	+ 13	25	15	+ 10	+ 3	+ 1	—	+ 3	—	1,632
1993-94	1,632	+ 10	25	16	+ 9	+ 1	- 2	—	+ 3	—	1,642
1994-95	1,642	+ 7	24	15	+ 9	+ 1	- 1	—	+ 1	- 2	1,649
1995-96	1,649	+ 14	24	15	+ 9	+ 6	+ 3	—	+ 4	—	1,663
1996-97	1,663										

Table 6		Population: age and sex Constituent countries of the United Kingdom													thousands		
Mid-year	All ages	Age-group													Under 16	16–64/59	65/60 and over
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85 and over					
United Kingdom																	
Persons																	
1971	55,928	899	3,654	8,916	8,144	6,971	6,512	10,202	3,222	4,764	2,160	485	14,257	32,548	9,123		
1981	56,352	730	2,725	8,147	9,019	8,010	6,774	9,540	2,935	5,195	2,675	602	12,541	33,780	10,031		
1991	57,808	794	3,092	7,175	8,247	9,057	7,955	9,500	2,888	5,067	3,136	896	11,741	35,469	10,597		
1994	58,395	759	3,117	7,483	7,554	9,375	7,837	10,277	2,808	5,223	2,952	1,011	12,075	35,689	10,630		
1995	58,606	734	3,102	7,526	7,450	9,409	7,931	10,445	2,784	5,127	3,054	1,044	12,106	35,848	10,652		
1996	58,801	719	3,044	7,595	7,325	9,420	8,093	10,582	2,772	5,058	3,125	1,067	12,098	36,035	10,668		
Males																	
1971	27,167	461	1,874	4,576	4,137	3,530	3,271	4,970	1,507	1,999	716	126	7,318	17,008	2,841		
1981	27,409	374	1,399	4,184	4,596	4,035	3,409	4,711	1,376	2,264	921	141	6,438	17,646	3,325		
1991	28,246	407	1,588	3,688	4,227	4,591	3,986	4,732	1,390	2,272	1,151	214	6,033	18,576	3,637		
1994	28,592	389	1,596	3,840	3,879	4,767	3,929	5,118	1,363	2,363	1,096	251	6,194	18,687	3,710		
1995	28,727	376	1,589	3,861	3,825	4,793	3,984	5,201	1,358	2,330	1,147	263	6,208	18,779	3,740		
1996	28,856	369	1,560	3,897	3,760	4,805	4,072	5,270	1,355	2,310	1,185	273	6,205	18,882	3,768		
Females																	
1971	28,761	437	1,779	4,340	4,008	3,441	3,241	5,232	1,715	2,765	1,443	359	6,938	15,540	6,282		
1981	28,943	356	1,326	3,963	4,423	3,975	3,365	4,829	1,559	2,931	1,755	461	6,103	16,134	6,706		
1991	29,562	387	1,505	3,487	4,021	4,466	3,968	4,769	1,498	2,795	1,986	682	5,708	16,893	6,961		
1994	29,803	370	1,521	3,643	3,674	4,608	3,908	5,159	1,444	2,861	1,856	759	5,881	17,002	6,920		
1995	29,878	358	1,513	3,665	3,625	4,616	3,947	5,244	1,427	2,797	1,907	781	5,898	17,069	6,911		
1996	29,946	350	1,484	3,698	3,565	4,615	4,020	5,312	1,418	2,748	1,940	794	5,893	17,153	6,900		
Great Britain																	
Persons																	
1971	54,388	867	3,528	8,617	7,898	6,782	6,348	9,959	3,148	4,658	2,109	476	13,774	31,695	8,918		
1981	54,815	703	2,621	7,865	8,748	7,810	6,599	9,313	2,867	5,079	2,620	589	12,099	32,906	9,810		
1991	56,207	768	2,988	6,915	7,991	8,817	7,755	9,259	2,818	4,948	3,070	878	11,326	34,525	10,356		
1994	56,753	734	3,013	7,218	7,302	9,123	7,628	10,020	2,738	5,100	2,884	992	11,656	34,713	10,384		
1995	56,957	710	2,999	7,262	7,198	9,156	7,718	10,184	2,716	5,004	2,985	1,026	11,689	34,864	10,405		
1996	57,138	695	2,943	7,330	7,074	9,163	7,875	10,316	2,703	4,936	3,054	1,048	11,683	35,036	10,420		
Males																	
1971	26,413	446	1,810	4,424	4,009	3,435	3,190	4,854	1,471	1,954	697	123	7,072	16,567	2,774		
1981	26,655	360	1,346	4,039	4,455	3,934	3,322	4,602	1,345	2,214	901	137	6,211	17,192	3,252		
1991	27,465	394	1,534	3,555	4,095	4,473	3,887	4,614	1,358	2,219	1,127	210	5,820	18,089	3,556		
1994	27,790	377	1,543	3,704	3,749	4,642	3,825	4,992	1,331	2,309	1,072	247	5,980	18,183	3,627		
1995	27,922	364	1,536	3,726	3,694	4,668	3,879	5,073	1,325	2,276	1,122	259	5,994	18,272	3,656		
1996	28,043	357	1,509	3,761	3,630	4,677	3,965	5,139	1,322	2,257	1,159	268	5,992	18,367	3,683		
Females																	
1971	27,975	422	1,718	4,193	3,889	3,346	3,158	5,105	1,676	2,704	1,412	353	6,702	15,129	6,145		
1981	28,160	343	1,275	3,827	4,293	3,877	3,277	4,711	1,522	2,865	1,719	452	5,888	15,714	6,558		
1991	28,742	374	1,454	3,360	3,896	4,344	3,868	4,645	1,460	2,728	1,943	668	5,506	16,436	6,800		
1994	28,963	357	1,470	3,514	3,553	4,481	3,803	5,028	1,407	2,791	1,813	745	5,676	16,529	6,757		
1995	29,035	346	1,463	3,536	3,503	4,488	3,839	5,111	1,390	2,728	1,863	767	5,694	16,592	6,748		
1996	29,095	338	1,435	3,569	3,444	4,485	3,910	5,177	1,381	2,679	1,896	780	5,690	16,669	6,736		
England and Wales																	
Persons																	
1971	49,152	782	3,170	7,705	7,117	6,164	5,736	9,034	2,853	4,228	1,926	438	12,334	28,710	8,108		
1981	49,634	634	2,372	7,085	7,873	7,086	5,996	8,433	2,607	4,619	2,388	541	10,910	29,796	8,928		
1991	51,100	702	2,728	6,281	7,237	8,008	7,056	8,407	2,553	4,506	2,810	810	10,303	31,351	9,446		
1994	51,621	671	2,752	6,568	6,612	8,293	6,925	9,118	2,478	4,644	2,642	917	10,618	31,530	9,473		
1995	51,820	649	2,739	6,613	6,521	8,329	7,003	9,272	2,458	4,554	2,734	948	10,653	31,676	9,491		
1996	52,010	636	2,688	6,683	6,411	8,342	7,146	9,397	2,447	4,490	2,800	970	10,655	31,851	9,505		
Males																	
1971	23,897	402	1,626	3,957	3,615	3,129	2,891	4,414	1,337	1,778	637	112	6,334	15,036	2,527		
1981	24,160	324	1,218	3,639	4,011	3,569	3,024	4,178	1,227	2,020	825	126	5,601	15,589	2,970		
1991	24,995	360	1,401	3,231	3,710	4,065	3,539	4,199	1,234	2,027	1,035	194	5,296	16,442	3,257		
1994	25,304	344	1,410	3,371	3,396	4,225	3,475	4,551	1,209	2,109	985	229	5,448	16,533	3,323		
1995	25,433	333	1,403	3,394	3,348	4,252	3,523	4,626	1,204	2,078	1,032	240	5,465	16,619	3,349		
1996	25,557	327	1,378	3,430	3,291	4,265	3,602	4,689	1,201	2,059	1,066	249	5,466	16,716	3,375		
Females																	
1971	25,256	380	1,544	3,749	3,502	3,036	2,845	4,620	1,516	2,450	1,289	325	6,000	13,673	5,581		
1981	25,474	310	1,154	3,446	3,863	3,517	2,972	4,255	1,380	2,599	1,564	415	5,309	14,207	5,958		
1991	26,104	342	1,328	3,050	3,527	3,943	3,517	4,208	1,319	2,479	1,775	616	5,007	14,908	6,189		
1994	26,317	327	1,342	3,197	3,216	4,069	3,449	4,567	1,270	2,536	1,656	688	5,170	14,997	6,150		
1995	26,385	316	1,335	3,219	3,172	4,076	3,480	4,646	1,254	2,477	1,702	708	5,188	15,058	6,141		
1996	26,453	310	1,310	3,253	3,120	4,077	3,544	4,709	1,246	2,430	1,733	721	5,188	15,134	6,130		

**Table 6
continued**Population: age and sex
Constituent countries of the United Kingdom

thousands

Mid-year	All ages	Age-group													
		Under 1	1-4	5-14	15-24	25-34	35-44	45-59	60-64	65-74	75-84	85 and over	Under 16	16-64/59	65/60 and over
England															
Males															
1971	22,569	380	1,537	3,734	3,421	2,965	2,733	4,161	1,261	1,671	599	107	5,982	14,209	2,377
1981	22,795	306	1,147	3,430	3,790	3,377	2,856	3,938	1,154	1,902	777	119	5,280	14,717	2,798
1991	23,588	340	1,322	3,043	3,507	3,859	3,344	3,957	1,159	1,900	975	183	4,991	15,539	3,058
1994	23,882	326	1,332	3,175	3,207	4,012	3,286	4,289	1,136	1,977	926	216	5,137	15,626	3,119
1995	24,008	315	1,327	3,198	3,160	4,039	3,333	4,360	1,132	1,948	969	227	5,155	15,709	3,144
1996	24,129	309	1,304	3,233	3,106	4,051	3,410	4,420	1,129	1,931	1,002	235	5,158	15,803	3,167
Females															
1971	23,843	359	1,459	3,538	3,310	2,875	2,688	4,354	1,429	2,305	1,217	309	5,666	12,918	5,259
1981	24,026	292	1,088	3,248	3,650	3,327	2,807	4,009	1,295	2,445	1,472	392	5,004	13,416	5,605
1991	24,620	324	1,253	2,873	3,333	3,739	3,322	3,964	1,239	2,323	1,670	580	4,720	14,088	5,812
1994	24,825	309	1,268	3,010	3,039	3,862	3,259	4,304	1,193	2,378	1,555	648	4,874	14,177	5,774
1995	24,896	300	1,262	3,033	2,998	3,871	3,289	4,378	1,178	2,322	1,598	667	4,893	14,237	5,765
1996	24,960	293	1,239	3,065	2,948	3,872	3,351	4,437	1,170	2,279	1,627	678	4,894	14,311	5,755
Wales															
Males															
1971	1,329	22	89	222	194	164	158	253	76	107	38	6	352	827	150
1981	1,365	18	70	209	221	193	168	240	73	118	48	7	321	871	173
1991	1,407	20	79	188	203	206	195	242	74	128	60	11	305	904	199
1994	1,422	19	77	196	190	213	189	262	72	131	60	13	311	907	204
1995	1,425	18	76	196	188	214	190	266	72	130	62	14	310	910	206
1996	1,428	17	74	197	185	214	192	269	72	128	65	14	308	913	207
Females															
1971	1,412	21	85	211	191	161	157	265	88	146	73	16	335	755	322
1981	1,448	18	66	199	213	190	165	246	85	154	91	22	305	791	352
1991	1,484	19	75	177	194	203	195	244	80	156	105	36	288	820	377
1994	1,491	18	74	186	177	207	190	263	77	158	101	40	295	820	376
1995	1,491	17	73	187	175	206	190	268	76	154	104	41	295	820	376
1996	1,493	16	71	188	172	206	193	272	76	151	106	42	294	824	375
Scotland															
Males															
1971	2,516	44	184	467	394	306	299	440	134	176	60	11	738	1,530	247
1981	2,495	35	128	400	445	364	298	424	118	194	77	11	610	1,603	282
1991	2,470	34	133	325	385	407	348	415	124	192	91	16	524	1,646	299
1994	2,486	32	133	333	353	418	350	441	122	200	86	18	531	1,651	304
1995	2,489	31	133	332	346	416	356	446	121	198	90	19	530	1,653	307
1996	2,486	30	130	331	339	413	362	450	121	197	92	19	526	1,651	309
Females															
1971	2,720	42	174	445	387	311	313	485	160	254	122	27	701	1,455	563
1981	2,685	33	121	380	430	359	305	456	142	265	155	38	579	1,506	600
1991	2,637	32	126	309	369	402	351	437	141	249	168	53	499	1,528	611
1994	2,646	31	128	318	337	412	353	461	138	256	157	57	507	1,532	607
1995	2,647	30	128	317	331	411	359	465	136	252	160	59	506	1,534	607
1996	2,642	29	125	316	324	408	366	469	135	249	163	59	502	1,534	606
Northern Ireland															
Males															
1971	755	16	64	152	127	95	81	116	36	45	19	3	246	441	67
1981	754	14	53	145	140	102	87	109	32	50	20	4	227	454	73
1991	781	13	54	133	132	119	100	118	32	52	24	4	213	487	81
1994	802	12	53	136	130	125	104	126	33	54	25	4	214	504	83
1995	805	12	52	135	130	125	105	128	32	54	26	5	214	508	84
1996	812	12	51	136	129	127	108	131	33	54	26	5	213	515	85
Females															
1971	786	16	62	147	119	95	84	126	39	61	32	6	237	411	138
1981	783	13	51	137	130	98	88	118	37	66	36	9	215	420	148
1991	820	13	51	127	125	121	100	123	38	67	43	13	203	457	160
1994	840	12	51	129	121	128	105	131	37	69	43	14	205	472	163
1995	844	12	50	129	122	128	107	133	36	69	44	14	203	477	163
1996	851	12	49	129	121	130	111	135	36	69	45	14	203	484	164

Table 7

Population: age, sex, and marital status
England and Wales

thousands

Mid-year	All ages 16 and over				16–24				25–34			
	Single	Married	Divorced	Widowed	Single	Married	Divorced	Widowed	Single	Married	Divorced	Widowed
Males												
1971	4,173	12,522	187	682	2,539	724	3	—	637	2,450	38	4
1981	5,013	12,238	611	698	3,095	485	10	1	906	2,508	151	4
1991	6,024	11,745	1,200	731	3,136	257	12	—	1,718	2,100	245	2
1992	6,089	11,663	1,269	732	3,060	220	10	—	1,829	2,055	251	3
1993	6,147	11,580	1,342	732	2,984	186	8	—	1,925	2,001	254	3
1994	6,221	11,492	1,413	730	2,911	155	7	—	2,025	1,941	255	3
1995	6,345	11,415	1,480	729	2,878	129	6	—	2,125	1,873	252	3
1996	6,482	11,339	1,543	728	2,848	107	5	—	2,223	1,794	244	3
Females												
1971	3,583	12,566	296	2,810	1,907	1,255	9	2	326	2,635	63	12
1981	4,114	12,284	828	2,939	2,530	904	27	2	496	2,791	218	13
1991	4,822	11,838	1,459	2,978	2,688	522	30	1	1,135	2,488	312	8
1992	4,871	11,749	1,533	2,963	2,643	458	26	1	1,222	2,449	322	7
1993	4,906	11,661	1,610	2,946	2,589	400	23	1	1,298	2,400	330	8
1994	4,958	11,583	1,684	2,922	2,547	344	20	1	1,375	2,351	335	7
1995	5,058	11,488	1,754	2,898	2,543	294	17	—	1,454	2,280	335	7
1996	5,171	11,406	1,819	2,870	2,539	250	15	—	1,537	2,203	330	7
Mid-year	35–44				45–64				65 and over			
	Single	Married	Divorced	Widowed	Single	Married	Divorced	Widowed	Single	Married	Divorced	Widowed
Males												
1971	317	2,513	48	13	502	4,995	81	173	179	1,840	17	492
1981	316	2,519	178	12	480	4,560	218	147	216	2,167	54	534
1991	482	2,658	388	12	456	4,394	456	127	231	2,337	99	589
1992	497	2,561	403	11	468	4,479	499	125	235	2,349	106	593
1993	522	2,500	423	12	479	4,532	544	122	237	2,360	113	596
1994	556	2,463	444	12	489	4,564	587	120	239	2,368	121	595
1995	601	2,446	464	12	500	4,581	630	119	241	2,385	128	595
1996	657	2,449	483	13	512	4,587	673	118	242	2,401	137	594
Females												
1971	201	2,529	66	48	569	4,709	125	733	580	1,437	32	2,016
1981	170	2,540	222	41	386	4,358	271	620	533	1,692	90	2,263
1991	280	2,760	444	34	292	4,211	521	503	427	1,858	153	2,433
1992	295	2,669	456	32	295	4,308	568	487	416	1,866	161	2,436
1993	316	2,612	473	31	297	4,376	615	471	405	1,873	170	2,436
1994	343	2,587	491	29	300	4,422	659	456	393	1,879	179	2,429
1995	374	2,568	509	29	305	4,452	703	440	382	1,893	190	2,422
1996	414	2,575	527	28	310	4,473	746	425	370	1,904	201	1,904

Table 8

Vital statistics summary

Constituent countries of the United Kingdom

thousands

Year and quarter	All live births		Live births outside marriage		Marriages		Divorces		Deaths		Infant mortality***		Neonatal mortality†††		Perinatal mortality****	
	Number	Rate*	Number	Rate†	Number	Rate**	Number	Rate††	Number	Rate*	Number	Rate†	Number	Rate†	Number	Rate††††
United Kingdom																
1966	976.6	17.9	74.2	76	437.1	..	42.8	..	643.8	11.8	19.2	19.6	13.0	13.2	26.6	26.7
1971	901.6	16.1	73.9	82	459.4	..	79.6	..	645.1	11.5	16.2	17.9	10.8	12.0	20.7	22.6
1976	675.5	12.0	61.1	90	406.0	..	135.4	..	680.8	12.1	9.79	14.5	6.68	9.9	12.3	18.0
1981	730.8	13.0	91.3	125	397.8	49.4	156.4	11.3	658.0	11.7	8.16	11.2	4.93	6.7	8.79	12.0
1986	755.0	13.3	158.5	210	393.9	43.5	168.2	12.5	660.7	11.6	7.18	9.5	4.00	5.3	7.31	9.6
1991	792.5	13.7	236.1	298	349.7	36.0	173.5	13.0	646.2	11.3	5.82	7.4	3.46	4.4	6.45	8.1
1994	750.7	12.9	240.1	320	331.2	..	173.6	..	627.6	10.7	4.63	6.2	3.09	4.1	6.74††	8.9
1995	732.0	12.5	245.7	336	322.3	..	170.0	..	641.7	10.9	4.52	6.2	3.05	4.2	6.52††	8.9
1996	733.4	12.5	260.4	355	317.5‡	..	168.9‡	..	638.9	10.9	4.50	6.1	3.00	4.1	6.41††	8.7
1997	726.8‡	12.4‡	266.8‡	367‡					632.5‡	10.8‡						
Year ending Mar 1998									618.6‡	10.5‡						
1996 March	178.0	12.2	61.8	347	41.0‡	..			181.0	12.4	1.19	6.7	0.74	4.2	1.58††	8.8
June	178.3	12.2	61.3	344	91.4‡	..			149.7	10.2	1.07	6.0	0.74	4.1	1.61††	9.0
Sept	191.4	13.0	68.8	359	129.4‡	..			144.1	9.7	1.13	5.9	0.80	4.2	1.66††	8.6
Dec	185.6	12.6	68.6	369	55.8‡	..			164.1	11.1	1.12	6.0	0.72	3.9	1.55††	8.3
1997 March	178.7‡	12.3‡	65.6‡	367‡					180.3‡	12.4‡						
June	185.0‡	12.6‡	66.3‡	358‡					150.2‡	10.2‡						
Sept	186.1‡	12.6‡	68.8‡	370‡					141.9‡	9.6‡						
Dec	177.0‡	11.9‡	66.1‡	373‡					160.1‡	10.8‡						
1998 March									166.4‡	11.5‡						
Great Britain																
1966	946.4	17.8	73.2	77	426.3	..	42.6	..	627.3	11.8	18.4	19.4	12.4	13.1	25.6	26.6
1971	869.9	16.0	72.7	84	447.2	68.5	79.2	5.8	628.9	11.6	15.4	17.8	10.3	11.8	19.8	22.5
1976	649.2	11.9	59.8	92	396.1	57.3	134.8	9.8	663.8	12.1	9.30	14.3	6.33	9.7	11.7	17.8
1981	703.5	12.8	89.4	127	388.2	49.4	155.6	11.5	641.7	11.7	7.80	11.1	4.70	6.7	8.37	11.8
1986	726.8	13.2	154.9	213	383.7	43.4	166.7	12.7	644.7	11.7	6.89	9.5	3.83	5.3	7.04	9.6
1991	766.2	13.6	230.8	301	340.5	35.9	171.1	13.2	631.1	11.3	5.63	7.3	3.34	4.4	6.23	8.1
1994	726.4	12.8	234.8	323	322.5	32.7	171.3	13.5	612.5	10.8	4.48	6.2	2.98	4.1	6.50††	8.9
1995	708.2	12.4	240.2	339	313.7	31.2	167.7	13.3	626.4	11.0	4.35	6.1	2.92	4.1	6.27††	8.8
1996	708.8	12.4	254.0	358	309.2‡	30.2‡	166.6‡	13.3‡	623.7	10.9	4.36	6.1	2.91	4.1	6.18††	8.7
1997	702.5‡	12.3‡	260.3‡	371‡					617.6‡	10.8‡						
Year ending Mar 1998									603.7‡	10.6‡						
1996 March	171.8	12.1	60.2	350	40.0‡	15.7‡			176.6	12.4	1.15	6.7	0.71	4.1	1.50††	8.7
June	172.3	12.1	59.8	347	89.2‡	35.1‡			146.1	10.3	1.03	6.0	0.72	4.1	1.56††	9.0
Sept	185.1	12.9	67.2	363	125.7‡	48.9‡			140.6	9.8	1.09	5.9	0.78	4.2	1.61††	8.6
Dec	179.6	12.5	66.9	373	54.3‡	21.1‡			160.3	11.2	1.08	6.0	0.70	3.9	1.51††	8.3
1997 March	172.6‡	12.3‡	64.0‡	371‡					176.1‡	12.5‡						
June	178.7‡	12.5‡	64.6‡	362‡					146.6‡	10.3‡						
Sept	179.8‡	12.5‡	67.1‡	373‡					138.5‡	9.6‡						
Dec	171.4‡	11.9‡	64.6‡	377‡					156.4‡	10.9‡						
1998 March									162.3‡	11.5‡						
England and Wales																
1966	849.8	17.7	67.1	79	384.5	65.1	39.1	3.2	563.6	11.8	16.1	19.0	10.9	12.9	22.7	26.3
1971	783.2	15.9	65.7	84	404.7	69.0	74.4	5.9	567.3	11.5	13.7	17.5	9.11	11.6	17.6	22.3
1976	584.3	11.8	53.8	92	358.6	57.7	126.7	10.1	598.5	12.1	8.34	14.3	5.66	9.7	10.5	17.7
1981	634.5	12.8	81.0	128	352.0	49.6	145.7	11.9	577.9	11.6	7.02	11.1	4.23	6.7	7.56	11.8
1986	661.0	13.2	141.3	214	347.9	43.5	153.9	12.9	581.2	11.6	6.31	9.6	3.49	5.3	6.37	9.6
1991	699.2	13.7	211.3	302	306.8	35.6	158.7	13.5	570.0	11.2	5.16	7.4	3.05	4.4	5.65	8.0
1994	664.7	12.9	215.5	324	291.1	32.5	158.2	13.7	553.2	10.7	4.10	6.2	2.74	4.1	5.95††	8.9
1995	648.1	12.5	219.9	339	283.0	31.0	155.5	13.6	565.9	10.9	3.98	6.1	2.68	4.1	5.69††	8.7
1996	649.5	12.5	232.7	358	279.0‡	30.0‡	154.3‡	13.6‡	563.0	10.8	3.99	6.1	2.68	4.1	5.62††	8.6
1997	642.1	12.3‡	237.8‡	370‡					558.1‡	10.7‡	3.83	6.0	2.54	3.9	5.40††	8.4
Year ending Mar 1998									544.6‡	10.5‡	3.83	6.0	2.54	3.9	5.40††	8.4
1996 March	157.3	12.2	55.0	350	36.5‡	15.8‡	40.3‡	14.2‡	159.6	12.3	1.05	6.7	0.66	4.2	1.37††	8.6
June	158.1	12.2	54.8	346	80.7‡	34.9‡	39.1‡	13.8‡	131.8	10.2	0.94	5.9	0.66	4.1	1.41††	8.9
Sept	169.9	13.0	61.6	363	114.1‡	48.8‡	40.1‡	14.1‡	126.8	9.7	1.01	5.9	0.72	4.2	1.48††	8.7
Dec	164.2	12.6	61.2	373	47.9‡	20.5‡	34.8‡	12.2‡	144.8	11.1	1.00	6.1	0.65	3.9	1.37††	8.3
1997 March	158.1‡	12.3‡	58.5‡	370‡					160.0	12.5‡	0.98	6.2	0.63	4.0	1.36††	8.6
June	162.9‡	12.6‡	58.8‡	361‡					133.2	10.3‡	0.99	6.0	0.65	4.0	1.36††	8.3
Sept	164.4‡	12.5‡	61.3‡	373‡					124.7	9.5‡	0.91	5.5	0.62	3.8	1.32††	8.0
Dec	156.6‡	11.9‡	59.0‡	376‡					140.1	10.7‡	0.96	6.1	0.64	4.1	1.36††	8.6
1998 March									146.6‡	11.4‡						

* Per 1,000 population of all ages. † Per 1,000 live births. ** Persons marrying per 1,000 unmarried population 16 and over. †† Per 1,000 married population. *** Deaths under 1 year per 1,000 live births.

††† Deaths under 4 weeks per 1,000 live births. **** Stillbirths and deaths under 1 week per 1,000 live births. †††† Per 1,000 live and still births. ‡ Provisional. ‡‡ Figures given include stillbirths of 24–27 weeks gestation (see Notes to tables).

Table 8
continued**Vital statistics summary**

Constituent countries of the United Kingdom

thousands

Year and quarter	All live births		Live births outside marriage		Marriages		Divorces		Deaths		Infant mortality		Neonatal mortality		Perinatal mortality	
	Number	Rate*	Number	Rate†	Number	Rate**	Number	Rate†††	Number	Rate*	Number	Rate†	Number	Rate†	Number	Rate††
England																
1966	805.0	17.8	64.2	80	363.8	..	..	..	529.0	11.7	15.2	18.9	10.3	12.8	21.3	26.1
1971	740.1	15.9	62.6	85	382.3	..	..	..	532.4	11.5	12.9	17.5	8.58	11.6	16.6	22.1
1976	550.4	11.8	50.8	92	339.0	..	..	..	560.3	12.0	7.83	14.2	5.32	9.7	9.81	17.6
1981	598.2	12.8	76.9	129	332.2	..	..	..	541.0	11.6	6.50	10.9	3.93	6.6	7.04	11.7
1986	623.6	13.2	133.5	214	328.4	..	146.0	..	544.5	11.5	5.92	9.5	3.27	5.2	5.98	9.5
1991	660.8	13.7	198.9	301	290.1	..	150.1	..	534.0	11.2	4.86	7.3	2.87	4.3	5.33	8.0
1994	629.0	13.0	202.7	322	275.5	..	149.6	..	517.6	10.7	3.83	6.1	2.57	4.1	5.58††	8.8
1995	613.2	12.5	206.8	337	268.3	..	147.5	..	529.0	10.8	3.74	6.1	2.56	4.2	5.41††	8.8
1996	614.2	12.5	218.2	355					526.7	10.7	3.74	6.1	2.53	4.1	5.36††	8.7
1997	607.6‡	12.4‡	223.1‡	367‡					521.6‡	10.6‡	3.60	5.9	2.39	3.9	5.11††	8.4
Year ending Mar 1998									509.2‡	10.4‡	3.60	5.9	2.39	3.9	5.11††	8.4
1996 March	148.8	12.2	51.5	346	34.6‡	..	38.2‡	..	149.4	12.2	0.99	6.7	0.62	4.2	1.30††	8.7
June	149.7	12.3	51.4	344	76.4‡	..	36.9‡	..	123.4	10.1	0.88	5.9	0.62	4.1	1.34††	8.9
Sept	160.7	13.0	57.8	360	108.0‡	..	38.0‡	..	118.4	9.6	0.94	5.8	0.68	4.2	1.42††	8.8
Dec	155.1	12.6	57.4	370	45.3‡	..	32.8‡	..	135.5	11.0	0.94	6.0	0.62	4.0	1.31††	8.4
1997 March	149.4‡	12.3‡	54.8‡	367‡					149.7	12.4‡	0.91	6.1	0.58	3.9	5.40††	8.6
June	154.3‡	12.6‡	55.2‡	358‡					124.5	10.2‡	0.91	5.9	0.61	3.9	1.28††	8.2
Sept	155.6‡	12.6‡	57.6‡	370‡					116.5	9.4‡	0.86	5.5	0.60	3.8	1.26††	8.0
Dec	147.8‡	11.9‡	55.2‡	374‡					131.0	10.6‡	0.91	6.1	0.61	4.1	1.28††	8.6
1998 March									137.3‡	11.3‡						
Wales																
1966	44.9	16.6	2.8	63	20.7	..	..	..	34.6	12.8	0.91	20.3	0.62	13.8	1.38	30.1
1971	43.1	15.7	3.1	71	22.4	..	..	..	34.8	12.7	0.79	18.4	0.53	12.3	1.07	24.4
1976	33.4	11.9	2.9	86	19.5	..	..	..	36.3	13.0	0.46	13.7	0.32	9.6	0.64	19.0
1981	35.8	12.7	4.0	112	19.8	..	..	..	35.0	12.4	0.45	12.6	0.29	8.1	0.51	14.1
1986	37.0	13.1	7.8	211	19.5	..	7.9	..	34.7	12.3	0.35	9.5	0.21	5.6	0.38	10.3
1991	38.1	13.2	12.3	323	16.6	..	8.6	..	34.1	11.8	0.25	6.6	0.16	4.1	0.30	7.9
1994	35.4	12.2	12.7	360	15.5	..	8.6	..	33.9	11.6	0.22	6.1	0.14	4.1	0.33††	9.3
1995	34.5	11.8	13.1	381	14.7	..	8.0	..	35.3	12.1	0.20	5.8	0.13	3.8	0.27††	7.8
1996	34.9	11.9	14.4	412					34.8	11.9	0.20	5.6	0.13	3.6	0.26††	7.5
1997	34.5‡	11.8‡	14.8‡	428‡					34.9‡	11.9‡	0.20	5.9	0.14	3.9	0.28††	7.9
Year ending Mar 1998									33.9‡	11.6‡	0.20	5.9	0.14	3.9	0.28††	7.9
1996 March	8.4	11.6	3.5	412	1.9‡	..	2.1‡	..	9.9	13.6	0.05	5.7	0.03	3.9	0.07††	8.1
June	8.3	11.4	3.3	396	4.3‡	..	2.2‡	..	8.1	11.1	0.05	5.7	0.04	4.2	0.07††	8.4
Sept	9.1	12.4	3.8	413	6.1‡	..	2.1‡	..	8.0	10.9	0.06	6.4	0.04	3.8	0.06††	7.0
Dec	9.0	12.3	3.8	425	2.5‡	..	2.0‡	..	8.9	12.1	0.04	4.7	0.02	2.6	0.06††	6.7
1997 March	8.7‡	12.0‡	3.7‡	427‡					10.0	13.8‡	0.06	6.8	0.04	4.6	0.06††	7.4
June	8.6‡	11.9‡	3.6‡	422‡					8.4	11.5‡	0.06	7.4	0.05	5.2	0.08††	9.4
Sept	8.8‡	12.0‡	3.7‡	420‡					7.8	10.6‡	0.04	4.9	0.02	2.5	0.06††	7.2
Dec	8.4‡	11.4‡	3.7‡	445‡					8.7	11.9‡	0.04	4.5	0.03	3.3	0.07††	7.7
1998 March									9.0‡	12.5‡						
Scotland																
1966	96.5	18.6	6.2	64	41.9	..	3.6	..	63.7	12.3	2.24	23.2	1.47	15.2	2.87	29.3
1971	86.7	16.6	7.0	81	42.5	64.1	4.8	3.9	61.6	11.8	1.72	19.9	1.17	13.5	2.15	24.5
1976	64.9	12.5	6.0	93	37.5	53.8	8.1	6.5	65.3	12.5	0.96	14.8	0.67	10.3	1.20	18.3
1981	69.1	13.4	8.5	122	36.2	47.5	9.9	8.0	63.8	12.4	0.78	11.3	0.47	6.9	0.81	11.6
1986	65.8	12.9	13.6	206	35.8	42.8	12.8	10.7	63.5	12.4	0.58	8.8	0.34	5.2	0.67	10.2
1991	67.0	13.1	19.5	291	33.8	38.7	12.4	10.6	61.0	12.0	0.47	7.1	0.29	4.4	0.58	8.6
1994	61.7	12.0	19.2	312	31.5	35.1	13.1	11.4	59.3	11.6	0.38	6.2	0.25	4.0	0.56††	9.0
1995	60.1	11.7	20.3	337	30.7	33.7	12.2	10.7	60.5	11.8	0.38	6.2	0.24	4.0	0.58††	9.6
1996	59.3	11.6	21.4	360	30.2	32.8	12.4‡	10.9‡	60.7	11.8	0.37	6.2	0.23	3.9	0.55††	9.2
1997	60.4‡	11.8‡	22.8‡	377‡			12.2‡		59.5‡	11.6‡						
Year ending Mar 1998									59.1‡	11.5‡						
1996 March	14.5	11.4	5.1	354	3.5	15.3			17.0	13.3	0.10	6.7	0.06	3.8	0.14††	9.4
June	14.2	11.2	5.0	352	8.5	36.9			14.3	11.2	0.09	6.5	0.06	4.2	0.15††	10.3
Sept	15.1	11.7	5.5	366	11.7	50.6			13.8	10.7	0.09	5.8	0.06	3.9	0.13††	8.2
Dec	15.4	12.0	5.7	368	6.5	28.2			15.5	12.1	0.09	5.6	0.06	3.8	0.14††	9.1
1997 March	14.6‡	11.5‡	5.5‡	377‡					16.1	12.7‡						
June	15.7‡	12.3‡	5.8‡	371‡					13.4	10.5‡						
Sept	15.4‡	11.9‡	5.8‡	380‡					13.7	10.6‡						
Dec	14.8‡	11.4‡	5.6‡	382‡					16.3‡	12.6‡						
1998 March									15.7‡	12.4‡						

Notes: 1. Rates for the most recent quarters will be particularly subject to revision, even when standard detail is given, as they are based on provisional numbers or on estimates derived from events registered in the period.

2. Deaths for England and Wales represent the number of deaths registered in each year, except for 1993 and 1994 figures which represent the numbers of deaths occurring each year.

3. The marriage and divorce rates for 1991 onwards differ in part from those previously published because of a revision of the denominators.

4. From 1972 births for England and Wales are excluded if the mother was usually resident outside England and Wales, but included in the totals for Great Britain and the United Kingdom.

5. From 1972 deaths for England and for Wales separately exclude deaths to persons usually resident outside England and Wales, but these deaths are included in the totals for England and Wales combined, Great Britain and the United Kingdom.

Table 9

Live births: age of mother
England and Wales

Year and quarter	Age of mother at birth							Age of mother at birth							Mean age (years)	TPFR†
	All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	All ages	Under 20	20–24	25–29	30–34	35–39	40 and over		
	Total live births (thousands)							Age-specific fertility rates*								
1961	811.3	59.8	249.8	248.5	152.3	77.5	23.3	89.2	37.3	172.6	176.9	103.1	48.1	15.0	27.6	2.77
1964(max)†	876.0	76.7	276.1	270.7	153.5	75.4	23.6	92.9	42.5	181.6	187.3	107.7	49.8	13.7	27.2	2.93
1966	849.8	86.7	285.8	253.7	136.4	67.0	20.1	90.5	47.7	176.0	174.0	97.3	45.3	12.5	26.8	2.75
1971	783.2	82.6	285.7	247.2	109.6	45.2	12.7	83.5	50.6	152.9	153.2	77.1	32.8	8.7	26.2	2.37
1976	584.3	57.9	182.2	220.7	90.8	26.1	6.5	60.4	32.2	109.3	118.7	57.2	18.6	4.8	26.4	1.71
1977(min)†	569.3	54.5	174.5	207.9	100.8	25.5	6.0	58.1	29.4	103.7	117.5	58.6	18.2	4.4	26.5	1.66
1981	634.5	56.6	194.5	215.8	126.6	34.2	6.9	61.3	28.1	105.3	129.1	68.6	21.7	4.9	26.8	1.80
1991	699.2	52.4	173.4	248.7	161.3	53.6	9.8	63.6	33.0	89.3	119.4	86.7	32.1	5.3	27.7	1.82
1993	673.5	45.1	152.0	236.0	171.1	58.8	10.5	62.6	31.0	82.7	114.1	87.0	34.1	6.2	28.1	1.76
1994	664.7	42.0	140.2	229.1	179.6	63.1	10.7	61.9	29.0	79.4	112.1	88.7	35.8	6.4	28.4	1.75
1995	648.1	41.9	130.7	217.4	181.2	65.5	11.3	60.4	28.5	76.8	108.6	87.3	36.2	6.8	28.5	1.72
1996††	649.5	44.7	125.7	211.1	186.4	69.5	12.1	60.5	29.8	77.5	106.9	88.6	37.2	7.2	28.6	1.73
1997†	642.1	46.3	118.4	202.5	187.2	74.8	12.9	59.7	29.5	78.7	107.6	89.3	37.8	7.5	28.8	1.73
1996 March	157.3	10.6	30.8	51.4	44.7	16.9	3.0	59.8	29	76	106	87	37	7	28.6	1.71
June	158.1	10.4	29.8	51.7	46.3	17.0	2.9	58.7	28	73	104	88	36	7	28.7	1.68
Sept††	169.9	11.6	33.1	55.4	48.8	17.9	3.1	61.5	30	80	109	90	37	7	28.6	1.77
Dec††	164.2	12.0	32.1	52.6	46.6	17.7	3.2	61.9	32	82	109	90	38	8	28.6	1.79
1997 March‡	158.1	11.5	29.8	50.4	45.6	17.7	3.1	60.6	31	78	107	89	38	8	28.7	1.75
June‡	162.9	11.3	29.5	51.5	48.3	19.2	3.3	60.4	29	75	106	91	40	8	28.9	1.74
Sept‡	164.4	11.8	30.3	51.9	48.0	19.2	3.3	59.1	30	76	104	88	38	7	28.8	1.71
Dec‡	156.6	11.8	29.0	48.7	45.3	18.7	3.2	58.7	31	76	102	87	39	8	28.8	1.71

* Births per 1,000 women in the age-group; all quarterly rates and total period fertility rates (TPFRs) are seasonally adjusted.

† TPFR is the average number of children which would be born if women experienced the age-specific fertility rates of the period in question throughout their childbearing lifespan. During the post Second World War period the TPFR reached a maximum in 1964 and a minimum in 1977.

†† Provisional.

‡†† Provisional-rates only.

Note: The rates for women of all ages, under 20, and 40 and over are based upon the populations of women aged 15–44, 15–19, and 40–44 respectively.

Table 10

Live births outside marriage: age of mother and type of registration
England and Wales

Year and quarter	Age of mother at birth							Age of mother at birth							Registration*		
	All ages	Under 20	20–24	25–29	30–34	35 and over	Mean age (years)	All ages	Under 20	20–24	25–29	30–34	35 and over	Joint	Sole		
														Same address†	Different address†		
Thousands	Percentage of total births							As a percentage of all births outside marriage									
1961	48.5	11.9	15.5	9.3	6.2	5.6	25.40	6.0	19.9	6.2	3.7	4.1	5.5	..			
1966	67.1	20.6	22.0	11.9	6.9	5.8	24.33	7.9	23.7	7.7	4.7	5.0	6.6	38.3	61.7		
1971	65.7	21.6	22.0	11.5	6.2	4.3	23.78	8.4	26.1	7.7	4.7	5.7	7.4	45.5	54.5		
1976	53.8	19.8	16.6	9.7	4.7	2.9	23.34	9.2	34.2	9.1	4.4	5.2	8.9	51.0	49.0		
1981	81.0	26.4	28.8	14.3	7.9	3.6	23.47	12.8	46.7	14.8	6.6	6.2	8.7	58.2	41.8		
1991	211.3	43.4	77.8	52.4	25.7	11.9	24.84	30.2	82.9	44.9	21.1	16.0	18.8	54.6	19.8	25.6	
1993	216.5	38.2	75.0	57.5	31.4	14.4	25.46	32.2	84.8	49.4	24.4	18.4	20.7	54.8	22.0	23.2	
1994	215.5	35.9	71.0	58.5	34.0	16.1	25.80	32.4	85.5	50.6	25.5	18.9	21.8	57.5	19.8	22.7	
1995	219.9	36.3	69.7	59.6	37.0	17.4	25.98	33.9	86.6	53.3	27.4	20.4	22.6	58.1	20.1	21.8	
1996	232.7	39.3	71.1	62.3	40.5	19.4	26.08	35.8	88.0	56.5	29.5	21.7	23.9	58.1	19.9	21.9	
1997‡	237.9	41.1	69.4	63.3	42.2	21.9	26.22	37.0	88.7	58.6	31.3	22.5	25.0	59.5	19.3	21.2	
1996	March	55.0	9.3	17.0	14.7	9.5	4.5	26.04	35.0	87.7	55.2	28.7	21.2	22.8	58.1	19.8	22.2
	June	54.8	9.2	16.6	14.6	9.7	4.7	26.15	34.6	88.2	55.6	28.2	20.9	23.8	58.1	19.9	22.0
	Sept	61.6	10.3	18.8	16.6	10.8	5.1	26.11	36.3	88.1	57.0	29.9	22.1	24.4	58.2	20.1	21.7
	Dec	61.3	10.6	18.7	16.4	10.5	5.1	26.02	37.3	87.9	58.2	31.2	22.6	24.3	58.2	19.9	21.8
1997	March‡	58.5	10.2	17.4	15.7	10.2	5.1	26.13	37.0	88.7	58.4	31.0	22.4	24.6	58.4	19.5	22.0
	June‡	58.8	10.0	17.1	15.5	10.6	5.6	26.29	36.1	89.1	58.0	30.1	22.0	24.9	59.6	19.5	21.0
	Sept‡	61.3	10.5	17.8	16.5	10.9	5.6	26.24	37.3	88.8	58.9	31.8	22.7	24.9	59.9	18.9	21.2
	Dec‡	59.0	10.4	17.1	15.6	10.4	5.5	26.21	37.6	88.1	58.9	32.1	22.9	25.2	60.1	19.2	20.6

* Births outside marriage can be registered by both the mother and father (joint) or by the mother alone (sole).

† Usual address of parents.

‡ Provisional.

Table 11

Live births within marriage: age of mother, and birth order*
England and Wales

thousands

Year and quarter		Age of mother at birth							Mean age (years)	Age of mother at birth							Mean age (years)
		All ages	Under 20	20–24	25–29	30–34	35–39	40 and over		All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	
		Live births within marriage								Live births within marriage to remarried women							
1961		762.8	47.9	234.3	293.2	146.1	73.5	21.7	27.69	16.3	0.0	0.8	3.4	5.0	4.8	2.4	33.93
1966		782.8	66.2	263.8	241.9	129.5	62.9	18.4	26.99	16.8	0.0	1.2	4.7	5.2	3.8	1.8	32.61
1971		717.5	61.1	263.7	235.7	103.4	42.1	11.6	26.41	19.4	0.1	2.1	6.6	6.1	3.4	1.1	33.16
1976		530.5	38.1	165.6	211.0	86.1	23.9	5.8	26.69	26.7	0.1	2.9	10.5	8.7	3.6	1.0	30.48
1981		553.5	30.1	165.7	201.5	118.7	31.5	6.0	27.28	38.8	0.1	3.6	13.4	14.1	6.2	1.4	30.98
1991		487.9	8.9	95.6	196.3	135.5	43.8	7.7	28.89	39.4	0.0	1.6	10.8	15.8	9.1	2.1	32.49
1993		456.9	6.9	77.0	178.5	139.7	46.9	8.0	29.35	35.9	0.0	1.2	8.7	14.8	9.0	2.1	32.89
1994		449.2	6.1	69.2	170.6	145.6	49.7	8.0	29.61	35.2	0.0	1.0	8.1	14.9	9.1	2.2	33.07
1995		428.2	5.6	67.0	157.0	144.2	51.1	8.4	29.86	33.3	0.0	0.8	7.2	14.0	9.1	2.1	33.26
1996		416.8	5.4	54.7	148.8	145.9	53.3	8.9	30.09	32.6	0.0	0.7	6.4	13.9	9.3	2.2	33.52
1997‡		404.0	5.2	49.0	139.1	145.0	56.5	9.2	30.33	31.4	0.0	0.6	5.8	13.0	9.5	2.4	33.74
1996	March	102.3	1.3	13.8	36.7	35.2	13.1	2.3	30.06	8.1	0.0	0.2	1.6	3.4	2.3	0.6	33.51
	June	103.3	1.2	13.2	37.1	36.6	13.1	2.1	30.11	7.9	0.0	0.2	1.6	3.4	2.3	0.5	33.47
	Sept	108.3	1.4	14.2	38.8	38.0	13.7	2.2	30.07	8.4	0.0	0.2	1.6	3.6	2.4	0.6	33.48
	Dec	102.9	1.5	13.4	36.1	36.1	13.5	2.3	30.14	8.1	0.0	0.2	1.6	3.4	2.3	0.6	33.62
1997	March‡	99.5	1.3	12.4	34.8	35.4	13.5	2.2	30.25	7.8	0.0	0.2	1.6	3.2	2.4	0.6	33.63
	June‡	104.1	1.2	12.4	36.0	37.7	14.5	2.3	30.36	8.0	0.0	0.2	1.5	3.3	2.4	0.6	33.71
	Sept‡	103.1	1.3	12.4	35.4	37.1	14.5	2.4	30.35	8.0	0.0	0.2	1.4	3.4	2.4	0.6	33.73
	Dec‡	97.2	1.4	11.8	32.9	34.8	14.0	2.3	30.37	7.6	0.0	0.1	1.3	3.2	2.4	0.6	33.90
		First live births								Second live births							
1961		280.5	40.3	129.2	73.7	26.4	8.9	1.9	24.66	232.7	6.9	74.0	88.2	44.7	15.8	3.0	27.44
1966		287.4	52.2	138.1	67.7	20.7	7.1	1.5	24.02	246.3	12.6	88.5	92.2	38.0	12.6	2.5	26.64
1971		283.6	49.5	135.8	74.8	17.2	5.1	1.2	23.99	240.8	10.7	93.6	94.1	31.8	8.9	1.7	26.28
1976		217.2	30.2	85.4	77.2	19.7	3.9	0.7	24.87	203.6	7.4	62.5	91.8	34.7	6.2	1.0	26.87
1981		224.3	23.6	89.5	77.2	27.8	5.4	0.7	25.37	205.7	6.1	59.0	82.7	47.7	9.1	1.1	27.46
1991		193.7	6.7	51.2	84.5	40.2	9.7	1.3	27.48	178.3	2.0	32.8	73.9	53.0	14.7	1.9	28.95
1993		178.1	5.2	40.4	77.6	42.7	10.8	1.5	28.01	169.4	1.5	26.8	66.7	55.9	16.3	2.2	29.44
1994		176.0	4.7	36.4	75.7	46.1	11.6	1.6	28.32	166.3	1.3	23.9	62.7	58.6	17.6	2.2	29.74
1995		168.1	4.3	32.3	71.0	46.6	12.1	1.8	28.56	158.1	1.2	20.6	57.3	58.5	18.1	2.4	30.02
1996		163.0	4.2	28.9	67.2	47.7	13.1	1.9	28.81	153.8	1.0	18.5	53.4	59.1	19.2	2.6	30.28
1997‡		156.8	4.1	25.8	63.0	48.0	13.8	2.0	29.03	150.0	1.0	16.5	49.9	59.3	20.6	2.7	30.53
1996	March	39.7	1.0	7.1	16.3	11.6	3.2	0.5	28.84	38.0	0.3	4.8	13.4	14.2	4.7	0.6	30.17
	June	39.1	0.9	7.0	16.4	11.3	3.0	0.4	28.76	39.5	0.3	4.5	13.7	15.4	4.9	0.6	30.31
	Sept	42.7	1.1	7.7	17.7	12.5	3.4	0.5	28.77	39.6	0.3	4.7	13.9	15.2	4.8	0.7	30.26
	Dec	41.5	1.2	7.2	16.8	12.4	3.5	0.5	28.87	36.8	0.3	4.5	12.3	14.3	4.8	0.7	30.36
1997	March‡	38.3	1.0	6.4	15.5	11.7	3.2	0.5	28.97	36.9	0.2	4.3	12.6	14.3	4.8	0.7	30.40
	June‡	39.3	1.0	6.5	15.9	12.0	3.5	0.5	29.05	39.9	0.3	4.2	13.4	16.0	5.5	0.7	30.56
	Sept‡	40.2	1.1	6.6	16.2	12.3	3.6	0.5	29.03	38.2	0.3	4.1	12.6	15.2	5.3	0.7	30.56
	Dec‡	39.0	1.1	6.4	15.4	12.1	3.5	0.5	29.07	35.0	0.3	3.9	11.3	13.8	5.0	0.7	30.59
		Third live births								Fourth and higher order live births‡							
1961		124.8	0.6	23.3	45.0	34.5	17.2	4.3	29.78	124.8	0.0	7.9	32.3	40.5	31.7	12.4	31.56
1966		129.7	1.2	27.8	49.0	33.2	14.9	3.6	29.19	119.4	0.1	9.4	33.0	37.7	28.3	10.8	31.10
1971		111.7	0.9	26.6	43.6	27.9	10.4	2.2	28.74	81.4	0.1	7.6	23.2	26.5	17.6	6.5	30.72
1976		71.0	0.5	14.4	29.8	19.5	5.8	1.1	28.89	38.8	0.0	3.3	12.2	12.1	8.0	3.1	30.70
1981		82.4	0.4	14.1	29.5	28.7	8.7	1.0	29.59	41.1	0.0	3.1	12.0	14.5	8.3	3.2	31.14
1991		76.1	0.2	9.4	26.8	27.5	10.5	1.8	30.44	39.8	0.0	2.3	11.1	14.8	8.9	2.7	31.62
1993		71.8	0.1	7.9	24.0	26.9	11.0	1.8	30.75	37.5	0.0	1.8	10.1	14.1	8.9	2.6	31.84
1994		69.7	0.1	7.1	22.6	26.8	11.4	1.8	30.95	37.1	0.0	1.8	9.7	14.1	9.1	2.4	32.03
1995		66.7	0.1	6.5	20.5	26.1	11.7	1.8	31.16	35.3	0.0	1.6	9.0	13.1	9.2	2.4	32.09
1996		65.3	0.1	5.8	19.6	26.0	12.0	1.8	31.34	34.7	0.0	1.5	8.6	13.1	9.0	2.6	32.28
1997‡		63.1	0.1	5.2	18.1	25.1	12.7	2.0	31.58	34.1	0.0	1.4	8.1	12.6	9.4	2.6	32.45
1996	March	15.9	0.0	1.5	4.8	6.2	3.0	0.5	31.30	8.7	0.0	0.4	2.2	3.2	2.2	0.6	32.09
	June	16.3	0.0	1.4	4.8	6.7	3.0	0.4	31.38	8.4	0.0	0.3	2.1	3.2	2.2	0.6	32.27
	Sept	17.0	0.0	1.5	5.1	6.8	3.1	0.5	31.34	9.0	0.0	0.4	2.2	3.5	2.3	0.7	32.37
	Dec	16.0	0.0	1.4	4.9	6.2	3.0	0.5	31.32	8.6	0.0	0.3	2.1	3.2	2.2	0.7	32.39
1997	March‡	15.7	0.0	1.3	4.6	6.2	3.0	0.5	31.47	8.6	0.0	0.4	2.1	3.2	2.3	0.6	32.33
	June‡	16.4	0.0	1.3	4.7	6.6	3.3	0.5	31.56	8.5	0.0	0.4	2.0	3.2	2.3	0.7	32.44
	Sept‡	16.2	0.0	1.4	4.6	6.5	3.3	0.5	31.63	8.5	0.0	0.3	2.0	3.2	2.3	0.7	32.49
	Dec‡	14.7	0.0	1.2	4.2	5.8	3.0	0.5	31.65	8.4	0.0	0.3	2.0	3.1	2.4	0.6	32.55

Table 12

Conceptions by age of woman at conception
 England and Wales (residents)

Year and quarter		Age of woman at conception							
		All ages	Under 16	Under 20	20–24	25–29	30–34	35–39	40 and over
(a) numbers (thousands)									
1990		871.5	8.6	115.1	245.2	283.8	160.2	55.4	11.8
1991		853.6	7.8	103.3	234.1	281.1	166.3	56.9	11.9
1992		828.0	7.3	93.0	215.0	274.8	172.9	60.1	12.2
1993		819.0	7.2	86.7	202.9	271.4	181.9	63.5	12.6
1994		801.6	7.8	85.0	189.6	261.5	185.9	66.7	12.9
1995		790.3	8.0	86.2	180.4	249.9	191.2	69.2	13.3
1996‡		816.0	8.8	94.4	179.1	251.9	200.5	75.9	14.2
1994	March	196.5	1.8	21.3	47.8	63.9	44.4	16.1	3.1
	June	197.6	1.9	21.3	47.6	64.2	45.0	16.3	3.3
	Sept	202.0	1.9	20.7	46.2	66.8	48.2	16.9	3.2
	Dec	205.4	2.1	21.8	48.0	66.6	48.3	17.5	3.3
1995	March	193.2	1.9	20.9	45.2	61.4	45.8	16.6	3.3
	June	194.1	2.0	21.3	44.7	61.1	46.4	17.2	3.4
	Sept	195.2	2.1	21.0	43.3	62.0	48.4	17.2	3.3
	Dec	207.8	2.0	23.0	47.2	65.4	50.6	18.2	3.4
1996	March	206.3	2.3	24.1	47.2	63.8	49.4	18.4	3.4
	June	200.7	2.3	23.7	44.4	61.9	48.9	18.4	3.6
	Sept	202.3	2.1	22.5	42.9	63.0	51.0	19.3	3.6
	Dec	206.6	2.1	24.1	44.7	63.2	51.2	19.8	3.6
1997 March‡		194.0	2.0	23.1	41.4	59.4	47.8	18.7	3.6
(b) rates (conceptions per thousand women in age-group)									
1990		79.2	10.1	69.1	124.4	137.8	89.1	33.2	6.4
1991		77.7	9.3	65.1	120.6	135.0	89.4	34.0	6.4
1992		76.3	8.5	61.7	113.5	131.7	90.4	35.4	7.0
1993		76.1	8.1	59.6	110.4	131.2	92.5	36.8	7.4
1994		74.7	8.3	58.6	107.3	128.0	91.8	37.8	7.7
1995		73.7	8.5	58.7	105.9	124.8	92.1	38.2	8.0
1996‡		76.0	9.4	63.0	110.4	127.5	95.3	40.6	8.5
1994	March	74.2	8.0	59.4	108.1	126.2	89.8	37.2	7.5
	June	73.8	8.2	58.8	107.5	125.8	89.5	37.2	7.8
	Sept	74.7	8.0	56.5	104.3	130.0	94.1	37.8	7.7
	Dec	75.9	9.1	59.3	109.2	130.3	93.8	38.9	7.8
1995	March	73.0	8.2	58.0	106.0	123.5	90.3	37.6	8.0
	June	72.6	8.7	58.2	104.9	122.1	89.9	38.2	8.1
	Sept	72.2	8.7	56.5	101.5	123.1	92.5	37.5	7.8
	Dec	76.8	8.6	61.7	112.0	130.2	96.2	39.5	8.0
1996	March	77.3	9.9	65.2	114.9	129.4	94.9	40.1	8.1
	June	75.2	9.8	63.7	109.3	125.8	93.7	39.7	8.6
	Sept	74.9	9.1	59.6	105.8	127.3	96.4	41.0	8.6
	Dec	76.5	9.0	63.3	111.4	128.6	96.9	41.7	8.5
1997 March‡		73.2	8.7	61.5	106.5	123.9	92.1	40.0	8.6
(c) percentage terminated by abortion									
1990		19.9	50.6	35.6	22.2	13.5	13.8	23.3	43.3
1991		19.3	51.0	34.4	22.1	13.4	13.7	22.0	41.8
1992		19.3	51.0	34.5	22.4	13.9	13.7	21.8	40.6
1993		19.2	52.1	34.9	22.9	13.8	13.4	21.2	39.4
1994		19.5	52.8	35.3	23.5	14.3	13.4	20.8	40.0
1995		19.7	49.8	35.2	24.3	14.8	13.4	20.3	37.2
1996		20.8	51.5	36.8	25.9	15.6	14.0	20.9	36.7
1994	March	19.7	53.4	35.2	23.9	14.4	13.6	21.0	41.5
	June	20.0	53.1	35.7	23.8	14.9	13.9	21.7	40.5
	Sept	18.8	54.1	35.3	22.8	13.7	12.9	20.6	38.9
	Dec	19.3	50.9	35.2	23.5	14.2	13.4	20.0	39.0
1995	March	19.8	48.7	35.3	23.8	14.9	13.8	20.6	38.0
	June	20.2	48.8	35.4	24.7	15.4	13.8	20.8	37.4
	Sept	19.3	52.1	35.1	24.1	14.4	12.9	19.6	38.1
	Dec	19.6	49.3	34.8	24.5	14.5	13.4	20.3	35.3
1996	March	21.0	49.4	36.7	25.6	15.8	14.3	21.5	36.1
	June	21.3	51.6	37.2	26.6	16.0	14.3	21.6	37.2
	Sept	19.8	52.9	35.8	24.8	14.9	13.2	20.0	36.4
	Dec	21.1	52.5	37.7	26.4	15.9	14.2	20.7	37.1
1997 March‡		21.4	50.8	36.6	26.7	16.6	14.4	20.7	37.7

‡ Provisional

Notes: 1. Conceptions are estimates derived from birth registrations and abortion notifications.

2. Rates for women of all ages, under 20 and 40 and over are based on the population of women aged 15–44, 15–19 and 40–44 respectively. Some rates for September 1995 onwards have been amended. These rates use mid-1996 population estimates which were previously unavailable. Numbers of conceptions in the June 1996 quarter have been amended.

3. Quarterly rates have changed from those in previous volumes due to a more precise method of calculation.

Table 13

Expectation of life (in years) at birth and selected age
Constituent countries of the United Kingdom

Year	Males								Year	Females							
	At birth	At age								At birth	At age						
		5	20	30	50	60	70	80			5	20	30	50	60	70	80
United Kingdom																	
1961	67.9	64.9	50.4	40.9	22.6	15.0	9.3	5.2	1961	73.8	70.4	55.7	46.0	27.4	19.0	11.7	6.3
1971	68.8	65.3	50.9	41.3	23.0	15.3	9.5	5.5	1971	75.0	71.4	56.7	47.0	28.3	19.8	12.5	6.9
1981	70.8	66.9	52.3	42.7	24.1	16.3	10.1	5.7	1981	76.8	72.7	57.9	48.1	29.2	20.8	13.3	7.5
1986	71.9	67.8	53.2	43.6	24.9	16.8	10.5	6.0	1986	77.7	73.5	58.7	48.9	29.8	21.2	13.8	7.9
1991	73.2	68.9	54.2	44.7	26.0	17.7	11.1	6.4	1991	78.8	74.4	59.6	49.7	30.7	21.9	14.4	8.3
1992	73.4	69.1	54.4	44.8	26.1	17.8	11.1	6.4	1992	78.9	74.4	59.6	49.8	30.7	21.9	14.4	8.3
1993	73.7	69.3	54.6	45.1	26.4	18.0	11.3	6.5	1993	79.1	74.6	59.8	50.0	30.9	22.1	14.5	8.4
1994	73.9	69.5	54.8	45.2	26.5	18.1	11.3	6.5	1994	79.2	74.7	59.9	50.0	31.0	22.2	14.5	8.4
1995	74.1	69.7	55.0	45.5	26.8	18.4	11.5	6.6	1995	79.4	74.9	60.1	50.2	31.2	22.4	14.6	8.5
England and Wales																	
1961	68.1	65.1	50.6	41.1	22.7	15.1	9.3	5.2	1961	74.0	70.7	56.0	46.2	27.6	19.1	11.8	6.4
1971	69.0	65.6	51.1	41.5	23.1	15.4	9.5	5.5	1971	75.2	71.6	56.9	47.1	28.4	20.0	12.6	7.0
1981	71.0	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.1	48.3	29.4	20.9	13.4	7.5
1986	72.1	68.0	53.4	43.8	25.0	16.9	10.6	6.1	1986	77.9	73.6	58.9	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.5	44.9	26.2	17.9	11.2	6.4	1991	79.0	74.6	59.8	49.9	30.8	22.1	14.5	8.4
1992	73.6	69.3	54.6	45.0	26.3	17.9	11.2	6.4	1992	79.1	74.6	59.8	50.0	30.9	22.1	14.5	8.4
1993	74.0	69.6	54.9	45.3	26.5	18.2	11.4	6.5	1993	79.3	74.8	60.0	50.2	31.1	22.3	14.6	8.5
1994	74.1	69.7	55.0	45.4	26.7	18.3	11.4	6.5	1994	79.4	74.9	60.1	50.3	31.2	22.3	14.6	8.5
1995	74.4	70.0	55.2	45.7	26.9	18.5	11.6	6.6	1995	79.6	75.1	60.3	50.4	31.3	22.5	14.7	8.6
Scotland																	
1961	66.3	63.6	49.1	39.6	21.6	14.4	9.0	5.1	1961	72.0	68.9	54.2	44.5	26.1	17.9	10.9	5.9
1971	67.3	64.0	49.5	40.1	22.0	14.6	9.1	5.4	1971	73.7	70.1	55.4	45.6	27.2	19.0	11.9	6.7
1981	69.1	65.2	50.6	41.1	22.9	15.4	9.5	5.5	1981	75.3	71.2	56.4	46.7	27.9	19.7	12.7	7.2
1986	70.2	66.0	51.4	41.9	23.5	15.8	9.9	5.7	1986	76.2	71.9	57.1	47.3	28.4	20.1	13.0	7.5
1991	71.4	67.1	52.5	43.0	24.6	16.6	10.4	6.1	1991	77.1	72.6	57.8	48.1	29.1	20.6	13.4	7.8
1992	71.5	67.2	52.5	43.1	24.6	16.6	10.4	6.0	1992	77.1	72.6	57.8	48.1	29.1	20.6	13.4	7.7
1993	71.7	67.3	52.7	43.2	24.8	16.8	10.5	6.0	1993	77.3	72.8	58.0	48.2	29.3	20.7	13.4	7.8
1994	71.9	67.5	52.8	43.4	24.9	16.9	10.6	6.1	1994	77.4	72.9	58.1	48.3	29.4	20.8	13.5	7.8
1995	72.1	67.7	53.1	43.6	25.2	17.2	10.8	6.2	1995	77.6	73.2	58.3	48.6	29.6	21.0	13.7	7.9
Northern Ireland																	
1961	67.6	65.0	50.5	41.0	22.8	15.3	9.5	5.4	1961	72.4	69.5	54.8	45.1	26.5	18.1	11.0	6.0
1971	67.6	64.6	50.1	40.7	22.6	15.0	9.4	5.3	1971	73.7	70.4	55.6	45.9	27.3	18.9	11.7	6.5
1981	69.1	65.3	50.8	41.4	23.1	15.5	9.6	5.5	1981	75.4	71.4	56.7	47.0	28.1	19.9	12.6	7.1
1986	70.6	66.4	51.8	42.4	23.9	16.0	10.0	5.7	1986	76.7	72.5	57.7	47.9	28.9	20.4	13.0	7.2
1991	72.3	67.9	53.3	43.8	25.2	17.0	10.6	6.0	1991	78.1	73.7	58.9	49.1	30.0	21.3	13.8	7.8
1992	72.5	68.2	53.6	44.1	25.5	17.2	10.7	6.0	1992	78.3	73.9	59.1	49.3	30.2	21.5	13.9	8.0
1993	72.8	68.4	53.8	44.4	25.6	17.4	10.8	6.1	1993	78.4	74.0	59.2	49.4	30.3	21.6	14.0	7.9
1994	72.9	68.6	54.0	44.5	25.8	17.5	10.9	6.1	1994	78.4	74.0	59.2	49.4	30.3	21.6	14.0	7.9
1995	73.3	68.9	54.3	44.8	26.1	17.7	11.0	6.0	1995	78.7	74.2	59.4	49.6	30.5	21.7	14.0	7.9

Figures from 1981 are calculated from the population estimates revised in the light of the 1991 Census. All figures are based on a three-year period, see Notes on Tables for further information.

Table 14

Deaths: age and sex
England and Wales

Year and quarter		All ages	Age-group												
			Under 1*	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85 and over
Numbers (thousands)															
Males															
1971		288.4	7.97	1.23	0.92	0.69	1.54	1.77	3.05	6.68	21.0	55.7	89.8	71.9	26.1
1976		300.1	4.88	0.88	0.68	0.64	1.66	1.66	3.24	5.93	20.4	52.0	98.7	80.3	29.0
1981		289.0	4.12	0.65	0.45	0.57	1.73	1.58	3.18	5.54	16.9	46.9	92.2	86.8	28.5
1986		287.9	3.72	0.57	0.32	0.38	1.43	1.75	3.10	5.77	14.4	43.6	84.4	96.2	32.2
1991		277.6	2.97	0.55	0.34	0.35	1.21	1.76	3.69	6.16	13.3	34.9	77.2	95.8	39.3
1993		279.6	2.41	0.51	0.28	0.34	0.91	1.60	3.81	5.78	13.4	33.3	78.9	93.8	44.5
1994		267.6	2.37	0.43	0.28	0.33	0.84	1.55	4.07	5.77	12.9	31.3	76.3	88.2	43.2
1995		272.7	2.29	0.40	0.28	0.33	0.89	1.56	4.10	5.86	13.4	30.8	74.5	91.6	46.6
1996		269.8	2.29	0.44	0.24	0.31	0.91	1.41	4.03	5.86	13.5	30.1	71.5	91.2	48.1
1997		266.2	2.16	0.42	0.27	0.33	0.97	1.47	3.92	5.72	13.6	29.1	68.3	90.7	49.3
Females															
1971		278.9	5.75	0.98	0.57	0.42	0.63	0.79	1.84	4.53	13.3	30.8	64.0	95.0	60.4
1976		298.5	3.46	0.59	0.45	0.42	0.62	0.67	1.94	4.04	12.8	29.6	67.1	104.7	72.1
1981		288.9	2.90	0.53	0.30	0.37	0.65	0.64	1.82	3.74	10.5	27.2	62.8	103.6	73.9
1986		293.3	2.59	0.49	0.25	0.27	0.56	0.67	1.65	3.83	8.8	25.8	58.4	106.5	83.6
1991		292.5	2.19	0.44	0.25	0.22	0.46	0.64	1.73	3.70	8.4	21.3	54.2	103.3	95.7
1993		299.2	1.84	0.37	0.19	0.25	0.39	0.58	1.80	3.63	8.6	20.4	55.2	100.9	105.0
1994		285.6	1.75	0.36	0.19	0.20	0.36	0.54	1.77	3.67	8.7	19.0	53.9	94.2	101.0
1995		293.2	1.68	0.34	0.19	0.23	0.39	0.52	1.84	3.64	8.9	18.8	52.7	96.4	107.5
1996		293.2	1.70	0.33	0.18	0.19	0.43	0.52	1.88	3.67	8.8	18.3	50.5	97.3	109.3
1997		291.9	1.67	0.30	0.18	0.21	0.43	0.50	1.71	3.73	9.1	18.1	48.6	96.0	111.5
Rates (deaths per 1,000 population in each age-group)															
Males															
1971		12.1	19.8	0.76	0.44	0.37	0.90	0.93	0.97	2.31	7.07	20.1	50.5	113.0	231.8
1976		12.5	16.2	0.65	0.34	0.31	0.88	0.96	0.92	2.09	6.97	19.6	50.3	116.4	243.2
1981		12.0	12.6	0.53	0.27	0.29	0.82	0.83	0.89	1.83	6.11	17.7	45.6	105.2	226.5
1986		11.8	11.0	0.44	0.21	0.23	0.71	0.82	0.87	1.67	5.27	16.6	42.9	101.1	214.8
1991		11.2	8.3	0.40	0.21	0.23	0.69	0.86	0.94	1.76	4.62	13.8	38.5	93.6	197.1
1993		11.1	7.0	0.36	0.16	0.21	0.59	0.83	0.91	1.67	4.24	13.3	37.9	93.3	202.3
1994		10.6	6.9	0.31	0.16	0.20	0.55	0.83	0.96	1.66	3.99	12.4	36.2	89.5	188.6
1995		10.7	6.9	0.28	0.16	0.20	0.57	0.87	0.96	1.66	4.05	12.2	35.9	88.8	194.3
1996		10.6	6.9	0.32	0.13	0.19	0.57	0.82	0.94	1.63	4.01	12.0	34.7	85.5	193.2
1997†		10.4	6.6	0.31	0.15	0.20	0.61	0.86	0.92	1.59	4.02	11.6	33.2	85.0	198.1
Year ending March 1998†		10.2	..	0.32	0.16	0.19	0.60	0.87	0.94	1.61	4.02	11.6	32.7	82.7	192.3
1996	March	11.9	7.6	0.34	0.13	0.21	0.63	0.83	0.98	1.68	4.12	13.1	38.5	97.6	230.7
	June	10.0	6.6	0.30	0.11	0.19	0.49	0.78	0.85	1.61	3.96	11.7	33.6	80.4	177.7
	Sept	9.5	6.3	0.25	0.13	0.19	0.55	0.79	0.95	1.55	3.84	11.2	31.6	76.1	166.3
	Dec	10.8	6.9	0.38	0.17	0.15	0.63	0.89	0.99	1.67	4.11	12.0	35.2	87.8	198.3
1997	March†	11.8	6.8	0.31	0.16	0.21	0.68	0.82	0.93	1.58	4.16	12.2	36.3	99.6	241.8
	June†	10.1	6.8	0.29	0.15	0.17	0.63	0.88	0.90	1.56	3.99	11.5	33.2	81.2	183.4
	Sept†	9.3	6.1	0.26	0.14	0.20	0.49	0.83	0.89	1.50	3.82	10.9	30.4	74.8	167.8
	Dec†	10.5	6.7	0.35	0.16	0.20	0.66	0.91	0.96	1.71	4.09	11.8	32.9	84.8	200.3
1998	March†	11.0	..	0.37	0.17	0.19	0.61	0.86	1.00	1.67	4.16	12.1	34.5	90.1	218.0
Females															
1971		11.0	15.1	0.63	0.29	0.24	0.39	0.42	0.60	1.59	4.32	10.0	26.1	73.6	185.7
1976		11.8	12.2	0.46	0.24	0.21	0.35	0.40	0.56	1.46	4.30	10.1	26.0	74.6	196.6
1981		11.3	9.4	0.46	0.19	0.19	0.32	0.35	0.52	1.26	3.80	9.5	24.1	66.2	178.2
1986		11.4	8.0	0.40	0.17	0.17	0.29	0.33	0.47	1.12	3.23	9.2	23.4	62.5	171.0
1991		11.3	6.4	0.33	0.16	0.15	0.28	0.33	0.45	1.06	2.91	8.1	22.0	58.6	163.8
1993		11.4	5.6	0.28	0.12	0.16	0.27	0.31	0.45	1.06	2.73	7.9	22.0	59.4	156.5
1994		10.9	5.4	0.27	0.11	0.13	0.25	0.30	0.44	1.06	2.68	7.3	21.3	56.9	146.6
1995		11.1	5.3	0.25	0.12	0.14	0.27	0.31	0.45	1.05	2.72	7.3	21.3	56.6	151.8
1996		11.1	5.4	0.25	0.11	0.12	0.28	0.32	0.46	1.04	2.62	7.1	20.8	56.1	151.7
1997†		11.0	5.3	0.23	0.11	0.13	0.29	0.31	0.42	1.05	2.68	7.0	20.0	55.4	154.7
Year ending March 1998†		10.7	..	0.22	0.11	0.15	0.28	0.32	0.41	1.04	2.66	6.9	19.6	53.8	148.6
1996	March	12.8	5.6	0.26	0.11	0.12	0.30	0.32	0.47	1.08	2.71	7.6	23.4	64.6	182.2
	June	10.3	5.3	0.26	0.10	0.09	0.26	0.31	0.46	1.03	2.46	6.9	19.7	52.4	138.9
	Sept	9.9	5.5	0.19	0.11	0.13	0.27	0.30	0.45	1.00	2.58	6.7	19.0	49.9	129.7
	Dec	11.4	5.2	0.30	0.11	0.14	0.31	0.34	0.46	1.03	2.71	7.2	20.9	57.7	156.4
1997	March†	13.1	5.6	0.28	0.13	0.11	0.32	0.25	0.44	1.09	2.74	7.7	22.6	65.4	196.2
	June†	10.4	5.3	0.23	0.10	0.13	0.28	0.35	0.41	1.07	2.70	6.8	19.4	53.0	141.1
	Sept†	9.7	4.9	0.15	0.09	0.14	0.25	0.31	0.38	1.03	2.61	6.6	18.1	48.9	129.9
	Dec†	10.9	5.6	0.25	0.12	0.15	0.30	0.33	0.44	1.03	2.67	7.0	19.9	54.4	152.5
1998	March†	11.8	..	0.24	0.12	0.18	0.30	0.30	0.40	1.05	2.66	7.2	20.9	58.9	171.4

* Rates per 1,000 live births. Some minor amendments have been made to the data from 1994 onwards as an incorrect denominator was previously used.

† Provisional.

.. Data not available

Note: Deaths for England and Wales represent the number of deaths registered in each year, except for 1993 and 1994 figures which represent the numbers of deaths occurring in each year.

Table 15

Deaths: subnational
New health regions of England (Regional Offices) *

Year and quarter	Northern and Yorkshire	Trent	Anglia and Oxford	North Thames	South Thames	South and West	West Midlands	North West
Total deaths (deaths per 1,000 population of all ages)								
1991	11.8	11.2	9.7	10.0	11.3	11.5	10.8	12.0
1993	11.8	11.4	9.8	9.9	11.4	11.6	11.0	12.1
1994	11.2	10.8	9.4	9.5	10.9	11.1	10.5	11.5
1995	11.3	11.0	9.6	9.7	11.1	11.5	10.9	11.6
1996	11.3	10.9	9.6	9.5	10.9	11.3	10.6	11.6
1997†	11.1	10.9	9.5	9.3	10.8	11.4	10.5	11.4
Year ending March 1998‡	11.0	10.7	9.2	9.0	10.4	11.0	10.3	11.2
1996 March	12.8	12.2	10.9	10.8	12.7	12.9	12.2	13.1
June	10.6	10.5	9.1	8.9	10.3	10.6	9.9	10.8
Sept	10.1	9.9	8.5	8.4	9.7	10.2	9.5	10.4
Dec	11.6	11.1	9.9	9.8	11.0	11.4	10.9	12.0
1997 March‡	12.6	12.6	11.1	11.0	13.0	13.4	12.2	12.9
June‡	10.8	10.4	9.0	8.8	10.2	10.9	10.1	11.0
Sept‡	9.8	9.6	8.4	8.3	9.5	9.9	9.4	10.3
Dec‡	11.1	11.1	9.4	9.1	10.5	11.3	10.5	11.6
1998 March‡	12.4	11.7	10.1	9.8	11.4	12.0	11.2	12.1
Infant mortality (deaths under 1 year per 1,000 live births)								
1991	8.5	8.0	6.8	6.5	6.5	6.4	8.7	7.5
1993	6.9	7.0	5.3	6.2	6.4	5.6	7.0	6.5
1994	6.8	7.2	5.6	6.1	5.2	5.0	7.2	6.2
1995	6.6	6.5	5.2	5.6	5.8	5.6	7.1	6.6
1996	6.4	6.3	5.8	5.6	6.1	5.5	6.8	6.4
1997	6.3	6.0	5.0	5.4	5.3	5.8	7.1	6.8
1996 March	7.1	6.7	5.8	6.7	6.6	5.6	6.3	8.2
June	5.8	6.1	5.8	4.9	5.9	5.1	7.2	6.5
Sept	6.0	6.1	5.8	4.9	5.8	6.0	7.1	5.2
Dec	6.7	6.3	5.7	5.9	6.3	5.2	6.8	5.6
1997 March	6.3	6.6	4.5	5.3	5.8	6.5	7.5	6.7
June	6.2	6.4	5.3	5.1	5.1	5.8	7.2	6.8
Sept	6.5	5.8	4.4	5.0	5.8	5.1	5.8	5.9
Dec	6.0	5.2	6.0	5.9	4.5	6.0	8.0	7.8
Neonatal mortality (deaths under 4 weeks per 1,000 live births)								
1991	4.9	4.7	3.8	4.2	3.8	3.6	5.9	4.0
1993	4.3	4.7	3.6	4.4	4.2	3.6	4.8	4.0
1994	4.4	5.1	3.8	3.9	3.7	3.1	5.4	3.9
1995	4.5	4.6	3.4	3.9	3.9	3.9	5.3	4.2
1996	4.1	4.2	3.7	3.9	4.1	3.9	5.0	4.1
1997	4.1	4.0	3.3	3.5	3.6	3.9	5.0	4.3
1996 March	4.4	3.7	3.2	4.4	3.9	3.6	4.6	5.2
June	3.7	3.9	4.3	3.5	4.2	3.5	5.6	4.4
Sept	4.4	4.6	3.9	3.8	4.0	4.7	5.2	3.4
Dec	4.0	4.6	3.4	4.0	4.2	3.6	4.7	3.5
1997 March	4.3	4.2	3.1	3.7	3.7	3.9	4.5	3.8
June	3.9	4.3	3.8	3.3	3.5	3.7	5.6	4.0
Sept	4.5	4.2	2.6	3.5	4.1	3.6	4.3	3.9
Dec	3.8	3.5	3.8	3.4	3.2	4.3	5.6	5.5
Perinatal mortality (stillbirths and deaths under 1 week per 1,000 total births)								
1991†	8.7	8.6	7.2	8.0	7.4	7.0	9.9	7.8
1993	9.4	8.6	8.5	9.2	8.9	7.8	9.9	8.9
1994	9.1	9.1	7.9	9.1	8.1	7.8	10.6	9.2
1995	9.4	9.5	7.2	9.0	8.6	7.7	10.2	8.6
1996	8.6	8.7	7.7	9.0	8.6	7.5	10.2	8.7
1997	8.2	7.9	7.5	8.5	7.9	8.4	9.7	8.8
1996 March	8.9	8.1	6.8	10.5	8.0	7.4	9.1	9.2
June	8.8	8.7	9.0	8.5	9.1	7.0	10.7	9.6
Sept	9.1	9.4	7.6	8.0	9.2	8.0	10.9	7.8
Dec	7.6	8.5	7.5	9.2	8.0	7.4	10.1	8.3
1997 March	8.0	8.0	8.6	9.0	8.7	8.8	9.5	8.0
June	8.0	7.8	7.4	8.1	7.5	8.4	9.7	9.1
Sept	8.6	8.4	6.5	8.0	7.9	7.3	8.5	9.1
Dec	8.4	7.5	7.6	8.8	7.3	9.4	11.1	9.1

* As constituted on 1 April 1996

† Figures given are based on stillbirths of 28 completed weeks gestation or more (see Notes to tables).

‡ Provisional

1. Death figures represent the number of deaths registered in each year, except for 1993 and 1994 figures which represent the number of deaths which occurred in each year.

Table 16

Deaths: selected causes (International Classification)* and sex
England and Wales

Year and quarter		All deaths		Cancer						Diabetes mellitus disease	Hyper-tensive disease	
				Stomach	Intestines	Pancreas	Lung	Breast	Uterus			Prostate
		Number (thousands)	Rate†	(151)	(152–3)	(157)	(162)	(174–5)	(179–82)	(185)	(250)	(401–5)
Males												
1961		280.8	1,256	..	17.0	9.3	86.9	0.3	:	16.4	5.9	31.7
1966		288.6	1,239	..	16.9	10.6	96.9	0.4	:	16.8	6.5	21.5
1971		288.4	1,207	30.3	17.6	11.5	105.2	0.3	:	16.9	7.9	17.5
1976		300.1	1,246	28.7	19.0	11.8	110.3	0.3	:	19.1	8.5	14.1
1981		289.0	1,196	26.1	18.8	12.4	108.8	0.3	:	21.3	8.3	10.2
1991		277.6	1,121	20.7	21.9	11.9	94.2	0.3	:	34.6	14.4	6.1
1993		279.6	1,109	18.2	21.2	11.3	86.0	0.3	:	34.1	11.2	5.4
1994		267.6	1,057	18.4	20.7	11.0	83.9	0.3	:	34.5	10.9	5.0
1995		272.7	1,072	16.9	20.8	10.9	80.2	0.3	:	34.8	11.2	5.0
1996		269.8	1,056	16.6	20.0	11.1	77.8	0.3	:	34.4	11.1	5.1
1997‡		266.2	1,041	15.9	20.4	10.9	74.8	0.3	:	33.4	10.8	5.3
Year ending March 1998‡		261.4	1,023	15.8	20.4	11.1	75.2	0.3	:	33.7	10.6	5.3
1995	March	74.3	1,185	16.6	20.5	10.9	82.0	0.3	:	36.9	12.5	5.7
	June	65.5	1,033	17.8	20.3	10.8	80.9	0.3	:	33.8	11.2	4.8
	Sept	60.7	947	16.6	20.6	11.2	76.2	0.4	:	32.2	9.8	3.9
	Dec	72.2	1,126	16.5	21.7	10.5	81.7	0.3	:	36.3	11.4	5.4
1996	March	75.6	1,189	16.5	20.7	10.5	79.3	0.3	:	34.2	12.4	6.0
	June	63.8	1,003	16.7	18.8	11.3	76.9	0.1	:	33.3	10.7	4.9
	Sept	61.2	953	16.8	19.9	11.2	77.4	0.3	:	33.6	10.1	4.4
	Dec	69.3	1,078	16.5	20.8	11.3	77.4	0.2	:	36.3	11.3	4.8
1997	March‡	74.3	1,179	15.7	20.9	10.8	74.5	0.2	:	32.1	12.5	5.9
	June‡	64.3	1,010	15.7	20.7	11.1	75.4	0.4	:	33.3	10.3	5.6
	Sept‡	60.2	934	15.9	20.1	10.2	72.8	0.2	:	33.6	9.8	4.5
	Dec‡	67.2	1,046	16.2	19.9	11.6	76.4	0.2	:	34.4	10.7	5.0
1998	March‡	69.5	1,102	15.3	21.1	11.6	76.1	0.2	:	33.3	11.4	6.0
Females												
1961		271.0	1,136	..	23.2	8.0	13.9	38.9	16.7	:	10.6	40.5
1966		275.0	1,115	..	22.3	9.0	17.8	39.7	16.0	:	11.3	27.6
1971		278.9	1,104	20.5	23.9	9.7	22.2	44.3	15.3	:	13.0	20.3
1976		298.5	1,176	19.5	25.3	10.9	27.4	46.4	14.6	:	11.9	16.7
1981		288.9	1,134	17.1	23.7	10.8	33.1	49.1	13.9	:	10.3	11.6
1991		292.5	1,127	12.7	24.0	11.8	42.0	53.2	12.2	:	17.5	7.1
1993		299.2	1,140	11.3	22.3	11.5	41.7	49.6	10.6	:	13.1	6.5
1994		285.6	1,085	11.2	22.4	11.5	42.0	48.9	10.0	:	12.2	5.9
1995		293.2	1,114	10.5	21.6	11.6	42.0	47.4	10.1	:	12.7	6.2
1996		293.2	1,108	9.5	21.3	11.5	42.0	46.2	10.0	:	12.0	6.6
1997‡		291.9	1,103	9.7	20.5	11.3	41.2	45.4	9.5	:	11.9	6.6
Year ending March 1998‡		283.2	1,071	9.6	20.5	11.3	41.9	45.5	9.6	:	11.9	6.5
1995	March	79.8	1,227	10.5	21.5	11.8	42.0	48.4	9.8	:	13.8	7.7
	June	69.8	1,061	10.0	20.7	11.7	41.0	46.7	10.4	:	12.0	5.7
	Sept	65.4	984	10.8	21.9	11.5	40.5	45.5	10.5	:	11.5	5.2
	Dec	78.2	1,175	10.8	22.4	11.4	44.5	49.0	9.7	:	13.4	6.0
1996	March	84.1	1,278	9.3	21.3	11.5	42.2	48.2	10.2	:	13.2	7.6
	June	68.0	1,035	9.5	21.3	11.3	39.5	44.9	9.9	:	11.8	6.0
	Sept	65.6	986	9.6	21.0	11.9	42.5	45.2	9.7	:	10.9	5.2
	Dec	75.5	1,136	9.8	21.5	11.3	43.5	46.7	10.0	:	12.2	7.4
1997	March‡	85.7	1,315	9.3	19.4	11.6	40.2	44.2	9.1	:	12.7	7.8
	June‡	68.9	1,045	9.8	21.8	10.9	40.5	45.6	10.3	:	11.1	6.2
	Sept‡	64.6	968	9.6	20.1	11.3	42.5	45.4	9.7	:	11.4	5.7
	Dec‡	72.7	1,090	10.1	20.8	11.5	41.7	46.1	9.0	:	12.3	6.8
1998	March‡	77.1	1,182	9.0	19.4	11.5	42.9	44.8	9.6	:	12.6	7.1

* The Ninth Revision of the International Classification of Diseases, 1975, came into operation in England and Wales on 1 January 1979. ONS has produced a publication containing details of the effect of this Revision (*Mortality statistics: comparison of 8th and 9th revision of the International Classification of Diseases, 1978 (sample)*, Series DH1 no.10).

† Per 100,000 population.

‡ Provisional.

Notes: 1. Between 1 January 1984 and 31 December 1992, ONS applied the International Classification of Diseases Selection Rule 3 in the coding of deaths where terminal events and other 'modes of dying', such as cardiac arrest, cardiac failure, certain thromboembolic disorders, and unspecified pneumonia and bronchopneumonia, were stated by the certifier to be the underlying cause of death and other major pathology appeared on the certificate. In these cases Rule 3 allows the terminal event to be considered a direct sequel to the major pathology and that primary condition was selected as the underlying cause of death. Prior to 1984 and from 1993 onwards, such certificates are coded to the terminal event. Further details may be found in the annual volumes *Mortality statistics: cause 1984*, Series DH2 no. 11, and *Mortality statistics: cause 1993 (revised) and 1994*, Series DH2 no. 21.

2. On 1 January 1986 a new certificate for deaths within the first 28 days of life was introduced. It is not possible to assign one underlying cause of death from this certificate. The 'cause' figures for 1986 onwards therefore exclude deaths at ages under 28 days.

3. Figures represent the numbers of deaths registered in each year, except for 1993 and 1994, which represent the numbers of deaths occurring in each year.

Table 16
continued

Rates per 100,000

Ischaemic heart disease	Cerebrovascular	Pneumonia	Influenza	Bronchitis and allied conditions	Chronic liver disease and cirrhosis	Congenital anomalies	Road vehicle accidents**	Accidental falls**	Suicide	Year and quarter
(410-14)	(430-8)	(480-6)	(487)	(490-6)	(571)	(740-59)	(E810-29)	(E880-8)	(E950-9)	
297.3	..	63.4	15.5	105.2	3.3	12.2	21.5	8.2	13.3	Males
323.1	..	68.9	7.0	106.8	3.1	11.1	22.8	7.9	11.9	1961
347.5	129.9	72.7	1.3	91.6	3.4	10.2	20.0	7.6	9.5	1966
371.1	119.3	98.8	10.5	85.3	4.3	7.7	17.4	6.8	9.7	1971
368.8	110.1	90.3	0.9	72.8	4.8	6.9	..	..	11.4	1976
329.9	104.6	39.6	0.3	73.6	7.1	3.5	12.8	5.4	12.2	1981
315.3	89.7	82.7	0.6	69.6	6.8	2.6	9.7	5.7	11.3	1991
292.2	86.2	75.5	0.1	61.3	7.5	2.7	9.2	5.5	11.2	1993
285.8	86.9	83.8	0.3	64.5	8.5	2.5	8.9	5.2	11.0	1994
276.9	87.2	83.8	0.2	60.8	8.8	2.6	9.1	5.7	10.4	1995
263.5	85.0	87.5	0.5	61.2	9.7	2.6	9.7	6.0	10.1	1996
258.5	83.4	79.1	0.1	56.6	10.0	2.5	9.7	6.0	10.3	1997†
										Year ending Mar 1998†
327.7	98.4	101.3	0.3	78.8	8.9	2.8	8.9	5.4	11.5	1995 March
279.9	83.6	73.1	0.0	58.2	8.0	2.2	9.1	5.1	10.8	June
241.6	75.7	62.4	0.0	48.4	8.4	2.4	8.1	4.7	10.3	Sept
294.7	90.0	98.7	0.8	72.8	8.6	2.7	9.4	5.8	11.3	Dec
313.8	99.8	115.0	0.6	82.2	8.8	3.1	9.4	6.0	10.7	1996 March
267.8	85.9	70.9	0.0	54.3	8.5	2.5	8.5	5.2	9.8	June
244.3	75.4	61.7	0.0	45.9	8.4	2.3	8.5	5.1	10.2	Sept
282.0	87.6	87.7	0.1	61.0	9.4	2.7	9.8	6.3	10.9	Dec
300.2	96.0	132.3	1.7	88.8	9.7	3.0	9.7	6.3	9.9	1997 March†
260.4	82.7	73.3	0.0	53.3	9.4	2.3	9.6	6.2	10.0	June†
230.0	75.6	62.0	0.0	45.7	9.2	2.5	8.8	5.7	9.2	Sept†
264.2	85.9	83.1	0.1	57.4	10.7	2.5	10.4	5.9	11.1	Dec†
279.8	89.6	98.1	0.3	70.3	10.9	2.9	9.8	6.4	10.9	1998 March†
										Females
210.1	..	63.7	15.0	39.0	2.7	10.8	8.0	14.4	9.0	1961
222.3	..	78.1	8.2	38.8	2.6	9.2	8.8	14.3	8.7	1966
237.9	193.5	88.0	1.5	31.8	3.0	8.3	9.1	14.7	6.7	1971
266.6	184.1	125.6	16.4	32.3	3.4	6.4	7.6	13.0	5.9	1976
259.4	169.0	126.5	1.6	28.7	4.1	5.4	..	..	6.5	1981
264.1	165.1	72.2	0.7	41.8	5.2	3.0	5.2	7.9	3.4	1991
254.7	146.9	128.7	1.1	43.4	4.9	2.6	4.0	8.4	3.3	1993
235.5	141.2	113.9	0.1	40.1	5.1	2.4	3.8	7.7	3.0	1994
228.6	142.3	125.9	0.6	43.7	5.5	2.5	3.8	8.3	2.9	1995
222.7	142.7	125.1	0.5	43.6	5.7	2.1	3.6	8.3	3.0	1996
211.1	136.9	132.0	0.9	44.8	6.3	2.4	3.5	9.3	2.9	1997†
206.4	133.9	115.9	0.1	42.0	6.3	2.4	3.4	8.8	3.0	Year ending Mar 1998†
260.0	157.2	155.6	0.5	52.5	5.6	2.3	4.1	9.4	3.0	1995 Mar
222.5	138.5	109.3	0.1	38.2	5.5	2.4	4.0	8.0	2.6	June
198.1	126.5	91.3	0.0	31.5	5.3	2.3	3.4	7.1	2.9	Sept
234.3	147.3	147.9	1.6	52.8	5.7	2.8	3.5	8.5	3.0	Dec
257.7	162.4	178.4	1.6	61.0	6.3	2.2	4.2	9.1	2.9	1996 March
210.1	137.3	103.3	0.1	37.2	5.6	2.0	3.4	8.5	3.0	June
195.9	126.5	88.1	0.0	30.4	5.5	1.9	3.4	7.5	3.1	Sept
227.5	144.8	130.9	0.4	45.7	5.6	2.4	3.5	8.2	3.0	Dec
245.0	159.0	217.2	3.6	67.0	6.3	2.6	3.6	11.2	2.6	1997 March†
207.9	132.7	103.1	0.0	36.1	6.4	2.7	3.6	9.0	3.2	June†
185.1	120.1	87.7	0.0	32.0	6.0	2.0	3.6	8.0	2.5	Sept†
207.0	136.1	121.7	0.2	44.3	6.5	2.3	3.1	8.9	3.4	Dec†
225.8	147.1	151.9	0.2	55.7	6.5	2.5	3.2	9.4	2.9	1998 March†

** Industrial action by registration officers in 1981 meant that information normally supplied by coroners about violent deaths is not available, and therefore no comparable figures can be compiled for these categories for 1981.

Table 17 Abortions: marital status, age, and gestation/weeks (residents only)
England and Wales

Year and quarter	All ages				All women						Gestation (weeks)			
	All women	Single women	Married women	Other*	Under 16	16–19	20–34	35–44	45 and over	Age not stated	Under 13	13–19	20 and over	Not stated
Numbers (thousands)														
1971	94.6	44.3	41.5	8.7	2.30	18.2	56.0	15.9	0.45	1.80	70.4	20.6	0.85	2.69
1976	101.9	50.9	40.3	10.7	3.43	24.0	57.5	14.7	0.48	1.79	82.1	15.3	0.98	3.56
1981	128.6	70.0	42.4	16.1	3.53	31.4	74.9	17.6	0.56	0.56	108.5	17.4	1.72	1.02
1991	167.4	110.9	37.8	18.7	3.16	31.1	114.7	17.9	0.41	0.01	147.5	17.8	2.07	0.00
1993	157.8	103.8	35.4	18.7	3.08	25.8	109.7	18.8	0.49	0.01	140.4	15.6	1.84	0.00
1994	156.0	102.2	34.5	19.3	3.22	25.1	108.1	19.1	0.44	0.01	138.9	15.4	1.85	0.00
1995	153.1	101.5	32.7	18.9	3.24	24.7	105.7	19.1	0.45	0.00	136.7	14.6	1.81	0.00
1996	166.4	113.1	33.9	19.4	3.60	28.5	112.9	21.0	0.42	0.01	147.5	16.7	2.14	0.00
1997	167.8	114.9	33.6	19.3	3.35	29.5	112.5	21.9	0.48	0.00	149.7	16.1	2.02	0.00
Year ending Dec 1997‡	167.8	114.9	33.6	19.3	3.35	29.5	112.5	21.9	0.48	0.00	149.7	16.1	2.02	0.00
1994 March	40.7	26.7	9.14	4.90	0.80	6.69	28.4	4.71	0.11	0.00	35.9	4.38	0.47	0.00
June	38.4	25.2	8.46	4.72	0.77	6.14	26.6	4.79	0.11	0.00	34.1	3.76	0.50	0.00
Sept	39.2	25.6	8.73	4.94	0.81	6.27	27.1	4.97	0.11	0.00	35.0	3.89	0.48	0.00
Dec	37.6	24.7	8.16	4.76	0.85	6.02	26.0	4.63	0.11	0.00	33.9	3.35	0.40	0.00
1995 March	40.3	26.7	8.65	4.98	0.86	6.45	27.9	4.97	0.12	0.00	35.7	4.16	0.42	0.00
June	37.4	24.7	8.12	4.59	0.76	5.98	25.9	4.68	0.11	0.00	33.5	3.52	0.43	0.00
Sept	38.4	25.5	8.14	4.80	0.80	6.26	26.4	4.87	0.12	0.00	34.2	3.73	0.50	0.00
Dec	37.0	24.6	7.81	4.52	0.82	6.04	25.4	4.54	0.11	0.00	33.3	3.23	0.46	0.00
1996 March	43.0	29.2	8.76	5.07	0.88	7.33	29.6	5.13	0.11	0.00	38.1	4.38	0.53	0.00
June	42.7	29.1	8.58	5.04	0.91	7.27	29.1	5.43	0.10	0.00	37.7	4.45	0.57	0.00
Sept	41.2	28.0	8.45	4.75	0.92	7.06	27.7	5.35	0.10	0.00	36.4	4.21	0.55	0.00
Dec	39.5	26.9	8.08	4.54	0.89	6.89	26.5	5.11	0.12	0.00	35.4	3.65	0.50	0.00
1997 March	42.5	29.2	8.47	4.82	0.84	7.47	28.7	5.40	0.10	0.00	37.3	4.68	0.52	0.00
June	42.4	28.0	8.53	4.84	0.83	7.30	28.6	5.53	0.14	0.00	37.9	4.00	0.53	0.00
Sept	42.2	28.8	8.59	4.80	0.87	7.43	28.1	5.68	0.12	0.00	37.7	4.02	0.50	0.00
Dec	40.7	27.9	8.00	4.83	0.82	7.35	27.1	5.32	0.13	0.00	36.9	3.37	0.48	0.00
Rates (per thousand women 14–49)														
1971	8.4	13.8	5.3	28.7	3.5	13.9	11.4	5.6	0.3	..	..	..	..	..
1976	8.9	14.8	5.3	23.6	4.4	16.9	11.2	5.3	0.3	..	..	..	..	..
1981	10.6	17.2	5.9	18.3	4.5	19.4	14.0	5.9	0.4	..	..	..	..	..
1991	13.1	23.6	5.5	15.1	5.6	24.0	19.6	5.1	0.3	..	..	..	..	..
1993	12.3	22.2	5.2	14.0	5.3	22.0	18.7	5.5	0.3	..	..	..	..	..
1994	12.1	20.5	5.1	13.9	5.2	21.9	18.7	5.5	0.2	..	..	..	..	..
1995	12.7	23.2	5.0	14.8	5.8	22.3	19.1	5.9	0.3	..	..	..	..	..
1996	12.9	22.7	5.1	13.9	5.8	24.9	19.3	6.1	0.2	..	..	..	..	..
1997	13.1	23.1	5.3	12.5	5.4	25.8	19.3	6.4	0.3	..	..	..	..	..
1994 March	12.8	21.8	5.5	14.3	5.2	23.7	19.7	5.5	0.3	..	..	..	..	..
June	12.0	20.3	5.1	13.6	5.0	21.5	18.3	5.6	0.2	..	..	..	..	..
Sept	12.1	20.4	5.2	14.1	5.2	21.7	18.4	5.7	0.2	..	..	..	..	..
Dec	11.6	19.7	4.8	13.6	5.4	20.9	17.7	5.3	0.2	..	..	..	..	..
1995 March	12.7	21.7	5.2	14.5	5.6	22.8	19.4	5.8	0.3	..	..	..	..	..
June	11.7	20.0	4.9	13.2	4.9	20.9	17.8	5.4	0.2	..	..	..	..	..
Sept	11.9	20.3	4.8	13.7	5.1	21.7	17.9	5.6	0.3	..	..	..	..	..
Dec	11.4	19.6	4.6	12.9	5.2	20.9	17.3	5.2	0.2	..	..	..	..	..
1996 March	13.4	23.6	5.6	13.2	5.7	25.7	20.4	6.0	0.2	..	..	..	..	..
June	13.4	23.5	5.5	13.1	5.9	25.5	20.0	6.3	0.2	..	..	..	..	..
Sept	12.7	22.4	5.3	12.2	5.9	24.5	18.9	6.2	0.2	..	..	..	..	..
Dec	12.2	21.5	5.1	11.7	5.7	23.9	18.1	5.9	0.3	..	..	..	..	..
1997 March	13.4	23.8	5.5	12.7	5.5	26.4	19.9	6.3	0.2	..	..	..	..	..
June	13.2	23.4	5.4	12.6	5.3	25.6	19.7	6.4	0.3	..	..	..	..	..
Sept	13.0	23.0	5.4	12.3	5.6	25.7	19.1	6.5	0.3	..	..	..	..	..
Dec	12.6	22.2	5.0	12.4	5.2	25.5	18.4	6.1	0.3	..	..	..	..	..

* Other women includes divorced, widowed, separated, and not stated.

‡ Provisional

Notes: 1. In calculating rates, the population of separated women has been estimated using Labour Force Survey data.

2. The rates differ from those previously published due to a revision of the denominators which remain provisional and may be subject to further revision.

Table 18

International migration: age and sex
United Kingdom

thousands

Year and quarter	All ages			0-14			15-24			25-44			45 and over		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Inflow															
1971	200	103	97	33	17	17	65	28	37	81	48	33	21	10	11
1976	191	100	91	32	16	17	64	32	32	77	43	34	18	9	9
1981	153	83	71	30	16	14	48	24	24	60	34	26	15	9	7
1986	250	120	130	45	22	23	79	34	45	101	49	51	25	16	10
1991	267	122	144	48	20	28	83	36	47	109	54	55	27	12	15
1993	213	101	112	34	17	17	73	28	44	87	44	43	20	12	8
1994	253	126	127	36	22	14	76	30	47	117	60	57	24	15	9
1995	245	130	115	28	20	9	88	40	48	107	57	50	22	14	8
1996	272	130	143	32	13	19	97	40	57	117	61	56	26	15	11
Year ending June 1997†	262	132	131	40	19	21	91	42	50	106	57	50	24	14	10
1996 March	52	26	26	8	3	5	13	5	9	26	17	9	5	2	3
June	56	24	32	3	1	1	15	4	12	30	13	16	8	5	3
Sept	109	55	54	13	6	7	50	25	25	41	20	20	5	3	2
Dec	55	25	30	8	3	5	18	7	12	21	11	10	8	5	3
1997 March†	50	26	24	10	6	4	12	4	8	23	13	10	5	3	3
June†	48	25	23	10	4	5	11	6	5	22	12	10	6	3	3
Outflow															
1971	240	124	116	51	26	24	64	28	36	99	57	42	27	12	15
1976	210	118	93	40	20	21	52	26	25	97	59	38	21	12	9
1981	233	133	100	49	25	24	51	29	22	108	64	44	25	14	11
1986	213	107	106	37	17	20	47	19	28	98	55	43	32	17	15
1991	239	120	119	39	17	22	59	31	29	113	58	55	28	15	13
1993	216	113	103	32	20	11	49	20	30	106	56	51	28	17	11
1994	191	92	98	26	15	11	48	19	29	95	49	46	23	10	13
1995	192	102	90	29	14	15	54	24	31	85	52	33	24	13	11
1996	216	105	111	33	13	20	49	17	32	117	64	53	18	11	6
Year ending June 1997†	205	102	103	27	9	17	52	21	31	106	57	49	20	15	5
1996 March	45	22	22	7	4	3	6	3	3	26	13	14	5	3	2
June	45	25	20	9	5	4	9	3	6	24	16	9	2	1	1
Sept	78	37	41	12	3	9	22	6	16	36	22	15	8	6	2
Dec	48	21	27	4	1	3	12	5	7	30	14	16	3	2	1
1997 March†	38	22	16	6	4	2	6	2	4	21	12	9	5	4	1
June†	40	22	19	5	1	3	13	8	5	19	9	9	4	3	1
Balance															
1971	- 40	- 22	- 19	- 17	- 10	- 8	+ 1	—	+ 1	- 18	- 10	- 9	- 6	- 2	- 4
1976	- 19	- 18	- 1	- 8	- 4	- 4	+ 12	+ 6	+ 7	- 20	- 16	- 4	- 3	- 3	—
1981	- 79	- 50	- 29	- 19	- 9	+ 10	- 2	- 5	+ 2	- 48	- 31	- 18	- 10	- 5	- 4
1986	+ 37	+ 13	+ 24	+ 8	+ 5	+ 3	+ 32	+ 15	+ 18	+ 3	- 5	+ 8	- 7	- 1	- 6
1991	+ 28	+ 2	+ 26	+ 8	+ 3	+ 5	+ 24	+ 6	+ 18	- 3	- 4	+ 1	- 1	- 3	+ 2
1993	- 2	- 12	+ 10	+ 2	- 3	+ 6	+ 23	+ 8	+ 15	- 20	- 11	- 8	- 9	- 6	- 3
1994	+ 62	+ 34	+ 28	+ 10	+ 6	+ 3	+ 29	+ 11	+ 17	+ 22	+ 11	+ 11	+ 2	+ 5	- 4
1995	+ 54	+ 28	+ 26	—	+ 6	- 6	+ 34	+ 16	+ 17	+ 22	+ 5	+ 17	- 1	+ 1	- 2
1996	+ 56	+ 24	+ 32	- 1	—	- 1	+ 48	+ 23	+ 25	—	- 3	+ 3	+ 8	+ 4	+ 5
Year ending June 1997†	+ 58	+ 30	+ 28	+ 14	+ 10	+ 4	+ 39	+ 21	+ 18	—	- 1	+ 1	+ 5	—	+ 5
1996 March	+ 7	+ 3	+ 4	+ 1	- 1	+ 2	+ 7	+ 2	+ 6	- 1	+ 4	- 5	—	- 1	+ 1
June	+ 11	- 1	+ 12	- 7	- 4	- 3	+ 6	+ 1	+ 6	+ 5	- 2	+ 8	+ 6	+ 5	+ 2
Sept	+ 31	+ 17	+ 14	+ 1	+ 3	- 2	+ 28	+ 19	+ 10	+ 4	- 1	+ 6	- 3	- 3	—
Dec	+ 7	+ 4	+ 2	+ 4	+ 2	+ 2	+ 7	+ 2	+ 4	- 9	- 3	- 6	+ 5	+ 3	+ 2
1997 March†	+ 12	+ 4	+ 8	+ 4	+ 2	+ 2	+ 6	+ 2	+ 4	+ 2	+ 1	+ 1	—	- 1	+ 1
June†	+ 8	+ 4	+ 4	+ 5	+ 3	+ 2	- 2	- 2	+ 1	+ 3	+ 3	—	+ 2	+ 1	+ 1

† Provisional

Note: Figures in this table are derived from the International Passenger Survey and exclude migration between the UK and the Irish Republic. It is highly likely that they also exclude persons seeking asylum after entering the country and other short-term visitors granted extensions of stay. For adjustment required, see Notes to tables.

<div> <div>Table 19</div> <div>International migration: country of last or next residence</div> <div>United Kingdom</div> <div>thousands</div> </div>											
Year and quarter	All countries	European Union*	Commonwealth countries					Other foreign countries			
			Australia, New Zealand, Canada	South Africa	India†, Bangladesh, Sri Lanka	Pakistan†	Caribbean	Other	USA	Middle** East	Other**
Inflow											
1971	200	21	52	8	24	:	5	36	22	:	31
1976	191	32	40	9	15	12	4	36	16	:	27
1981	153	25	20	3	18	9	3	26	17	11	21
1986	250	69	30	18	16	10	5	29	26	15	32
1991	267	72	47	8	12	12	3	39	25	8	41
1993	213	53	36	9	13	7	2	25	23	9	36
1994	253	76	34	8	10	6	1	36	30	11	43
1995	245	71	39	4	11	5	2	37	27	11	37
1996	272	82	40	11	12	9	3	32	33	12	37
Year ending June 1997‡	262	83	38	15	10	8	1	29	31	12	35
1996 March	52	18	6	2	2	2	—	5	6	2	9
June	56	11	16	4	4	2	2	3	5	3	7
Sept	109	29	13	5	3	3	—	18	18	4	15
Dec	55	25	5	1	3	2	—	5	5	2	7
1997 March‡	50	20	8	6	1	1	—	3	4	2	6
June‡	48	10	12	3	3	2	—	3	4	4	8
Outflow											
1971	240	31	99	21	8	:	8	23	17	:	34
1976	210	38	63	21	4	2	3	21	21	:	37
1981	233	32	79	23	2	1	3	23	25	23	21
1986	213	58	50	2	4	2	2	19	34	16	26
1991	239	72	53	6	5	3	2	27	32	13	27
1993	216	65	48	3	4	2	3	22	33	9	27
1994	191	52	38	4	2	3	3	21	24	11	33
1995	192	55	44	5	2	2	2	19	28	9	27
1996	216	72	50	5	4	1	1	27	23	6	27
Year ending June 1997‡	205	64	49	6	3	—	—	25	23	8	26
1996 March	45	14	11	1	1	—	—	4	5	2	7
June	45	16	9	1	1	—	—	6	5	2	4
Sept	78	30	12	1	1	—	—	14	8	2	11
Dec	48	13	18	3	—	—	—	3	5	1	5
1997 March‡	38	9	10	1	1	—	—	4	3	2	8
June‡	40	13	9	2	1	—	—	4	7	2	2
Balance											
1971	- 40	- 10	- 46	- 13	+ 16	:	- 3	+ 14	+ 6	:	- 3
1976	- 19	- 6	- 23	- 12	+ 12	+ 10	—	+ 15	- 4	:	- 10
1981	- 79	- 8	- 58	- 20	+ 16	+ 8	+ 1	+ 3	- 8	- 12	- 1
1986	+ 37	+ 1	- 21	+ 16	+ 12	+ 8	+ 3	+ 10	- 8	—	+ 7
1991	+ 28	—	- 6	+ 2	+ 8	+ 8	+ 2	+ 13	- 7	- 5	+ 14
1993	- 2	- 12	- 12	+ 6	+ 9	+ 5	- 1	+ 3	- 10	- 1	+ 9
1994	+ 62	+ 24	- 5	+ 4	+ 8	+ 3	- 3	+ 15	+ 6	—	+ 10
1995	+ 54	+ 16	- 4	- 1	+ 9	+ 4	- 1	+ 18	—	+ 3	+ 10
1996	+ 56	+ 10	- 10	+ 7	+ 8	+ 8	+ 2	+ 5	+ 10	+ 5	+ 10
Year ending June 1997‡	+ 58	+ 19	- 11	+ 8	+ 7	+ 8	+ 1	+ 5	+ 7	+ 4	+ 9
1996 March	+ 7	+ 4	- 5	+ 2	+ 1	+ 2	—	+ 1	+ 1	+ 1	+ 2
June	+ 11	- 5	+ 7	+ 3	+ 3	+ 1	+ 2	- 3	- 1	+ 2	+ 3
Sept	+ 31	—	+ 2	+ 4	+ 2	+ 3	—	+ 4	+ 10	+ 2	+ 4
Dec	+ 7	+ 12	- 13	- 2	+ 2	+ 2	—	+ 3	—	—	+ 2
1997 March‡	+ 12	+ 11	- 2	+ 5	—	+ 1	—	- 2	+ 1	—	- 2
June‡	+ 8	- 4	+ 3	+ 1	+ 2	+ 2	—	- 1	- 3	+ 2	+ 6

* From 1995 onwards figures for the European Union include estimates for Austria, Finland and Sweden. The figures for the years 1976–1994 show the European Community as it was constituted before 1st January 1995 (including the former German Democratic Republic). For 1971 the EC figures are for the original six countries only.

† Pakistan is included with India, Bangladesh, and Sri Lanka in 1971.

** Middle East is included in the Other category in 1971 and 1976.

‡ Provisional.

Note: Figures in this table are derived from the International Passenger Survey and exclude migration between the UK and the Irish Republic. It is highly likely that they also exclude persons seeking asylum after entering the country and other short-term visitors granted extensions of stay. For adjustment required, see Notes to tables.

Table 20

International migration: citizenship
United Kingdom

thousands

Year and quarter		Citizenship (number in thousands)							British citizens as percentage of all citizens	
		All citizenship	British	Non-British	European Union*	Commonwealth+†				Other foreign*+
						All	Old+	New†		
Inflow										
1971		200	92	108	..	53	17	36	54	46
1976		191	87	104	18	58	16	42	29	45
1981		153	60	93	11	47	11	36	36	39
1986		250	120	130	35	50	16	34	46	48
1991		267	117	150	31	67	25	42	52	44
1993		213	92	122	24	51	21	29	48	43
1994		253	118	135	29	52	20	32	55	47
1995		245	91	154	41	63	28	35	50	37
1996		272	104	168	54	64	30	34	50	38
Year ending June 1997‡										
		262	103	160	51	60	30	30	48	39
1996										
March		52	22	30	7	12	6	6	11	42
June		56	24	32	9	16	11	5	7	42
Sept		109	37	72	25	25	9	15	22	34
Dec		55	21	34	13	12	4	8	10	38
1997										
March‡		50	23	27	8	11	7	3	8	46
June‡		48	22	26	5	14	9	4	8	45
Outflow										
1971		240	171	69	..	29	13	16	40	71
1976		210	137	73	18	29	15	14	27	65
1981		233	164	69	15	29	13	16	25	71
1986		213	132	81	10	31	19	13	40	62
1991		239	137	102	32	34	17	18	36	57
1993		216	127	89	21	31	15	15	37	59
1994		191	108	82	22	29	12	16	32	57
1995		192	118	74	20	27	16	11	27	62
1996		216	139	77	24	29	16	14	24	64
Year ending June 1997‡										
		205	127	77	20	31	17	14	26	62
1996										
March		45	32	13	6	4	2	2	3	70
June		45	29	16	7	5	4	2	4	64
Sept		78	50	29	6	12	3	8	11	64
Dec		48	29	19	5	8	6	2	6	61
1997										
March‡		38	25	13	4	6	4	2	3	66
June‡		40	23	17	5	5	4	2	6	58
Balance										
1971		- 40	- 79	+ 39	..	+ 24	+ 4	+ 20	+ 14	:
1976		- 19	- 51	+ 31	—	+ 29	+ 2	+ 28	+ 2	:
1981		- 79	- 104	+ 25	- 4	+ 18	- 2	+ 20	+ 11	:
1986		+ 37	- 12	+ 49	+ 25	+ 19	- 3	+ 21	+ 5	:
1991		+ 28	- 20	+ 47	- 1	+ 32	+ 8	+ 24	+ 16	:
1993		- 2	- 35	+ 33	+ 3	+ 20	+ 6	+ 14	+ 10	:
1994		+ 62	+ 10	+ 53	+ 7	+ 23	+ 7	+ 16	+ 23	:
1995		+ 54	- 27	+ 81	+ 21	+ 36	+ 11	+ 25	+ 23	:
1996		+ 56	- 36	+ 92	+ 30	+ 35	+ 14	+ 21	+ 27	:
Year ending June 1997‡										
		+ 58	- 24	+ 82	+ 31	+ 29	+ 13	+ 17	+ 22	:
1996										
March		+ 7	- 9	+ 17	+ 2	+ 7	+ 3	+ 4	+ 8	:
June		+ 11	- 5	+ 16	+ 1	+ 11	+ 7	+ 4	+ 4	:
Sept		+ 31	- 13	+ 43	+ 19	+ 13	+ 6	+ 7	+ 11	:
Dec		+ 7	- 8	+ 15	+ 8	+ 4	- 2	+ 6	+ 4	:
1997										
March‡		+ 12	- 2	+ 14	+ 5	+ 5	+ 4	+ 1	+ 5	:
June‡		+ 8	- 2	+ 10	- 1	+ 8	+ 6	+ 3	+ 2	:

* From 1995 onwards figures for European Union citizenship includes estimates for Austrian, Finnish and Swedish citizenship. The figures for the years 1976–1994 show the European Community as it was constituted before 1st January 1995 (including citizens of the former German Democratic Republic). For 1971 citizens of the EC are included in the Other foreign category.

+ Figures for South African citizenship are included in Old Commonwealth and excluded from the Other foreign category with effect from 1994.

† For all years Pakistani citizens have been included with the New Commonwealth and excluded from the Other foreign category.

‡ Provisional.

Note: Figures in this table are derived from the International Passenger Survey and exclude migration between the UK and the Irish Republic. It is highly likely that they also exclude persons seeking asylum after entering the country and other short-term visitors granted extensions of stay. For adjustment required, see Notes to tables.

Table 21

Internal migration: recorded movements between England, Wales, Scotland, Northern Ireland and Government Office Regions of England

thousands

Year and quarter	England	Wales	Scotland	Northern Ireland	Government Office Regions of England								
					North East	Yorkshire and the Humber	East Midlands	Eastern	South East	London	South West (GOR)	West Midlands	North West (GOR) and Merseyside
Inflow													
1976	105.4	52.0	50.4	9.7	39.2	78.2	84.0	146.3	215.4	..	123.8	75.7	93.0
1981	94.3	44.6	46.9	7.2	31.1	68.3	76.6	121.4	201.8	155.2	108.4	66.9	79.3
1986	115.6	55.2	43.9	8.8	36.5	78.6	101.9	144.6	243.3	182.8	148.8	87.1	90.0
1991	95.8	51.5	55.8	12.5	40.2	85.0	89.6	122.1	197.6	148.8	120.7	82.7	96.1
1993	98.6	51.5	54.1	10.7	38.3	87.8	93.3	123.3	206.3	150.5	121.1	83.0	97.1
1994	103.4	52.0	51.7	10.9	37.1	87.6	96.4	130.6	215.5	160.4	127.7	84.8	99.7
1995	108.1	54.7	48.5	14.1	37.9	90.8	101.3	134.6	218.6	170.7	131.6	90.0	103.7
1996	111.1	55.3	47.0	11.4	38.6	90.8	102.1	139.5	228.0	168.0	138.5	90.6	105.0
Year ending June 1997‡	112.0	56.9	49.5	10.3	38.3	92.3	104.8	142.6	230.0	168.5	142.5	92.4	105.0
1996 March	23.0	10.7	12.2	2.7	7.4	16.5	19.4	28.4	46.2	37.1	27.2	17.9	21.0
June	23.8	11.4	10.3	3.5	7.7	17.0	20.2	31.2	49.1	35.8	29.5	18.5	22.0
Sept	36.9	19.4	13.2	2.2	14.4	35.8	37.9	45.4	75.7	52.6	47.6	31.1	35.9
Dec	27.4	13.9	11.3	3.0	9.1	21.5	24.4	34.4	57.0	42.5	34.3	23.1	26.0
1997 March	23.1	11.6	12.2	2.6	7.3	17.3	20.3	30.3	46.3	36.7	28.6	18.4	21.3
June‡	24.6	12.0	12.8	2.5	7.4	17.7	22.0	32.5	50.9	36.7	32.0	19.7	22.0
Outflow													
1976	104.8	43.9	54.5	14.2	40.2	78.5	77.2	115.6	181.7	..	94.7	89.5	102.9
1981	92.8	41.9	48.2	10.1	39.1	73.4	71.8	104.4	166.0	187.1	88.1	78.5	98.6
1986	100.7	49.8	57.9	15.1	45.6	90.5	84.8	128.1	204.1	232.4	102.5	94.8	115.8
1991	112.2	47.4	46.7	9.3	40.9	85.4	81.4	113.0	184.6	202.1	98.9	87.9	104.9
1993	108.2	48.3	46.9	11.5	41.7	87.5	83.2	113.1	183.1	203.4	100.6	92.2	105.7
1994	106.3	50.4	49.0	12.2	43.5	91.9	86.2	115.5	190.4	206.3	103.9	95.1	109.8
1995	107.9	53.1	52.0	12.3	45.6	97.6	91.9	118.7	195.8	207.6	108.0	98.1	115.8
1996	105.3	53.3	54.5	11.8	44.5	98.2	94.3	121.1	198.9	213.4	109.8	101.0	114.0
Year ending June 1997‡	108.2	53.9	54.1	12.6	44.2	99.7	96.3	123.1	202.3	217.4	110.9	103.0	115.9
1996 March	23.8	10.8	12.0	2.0	9.0	19.7	18.7	24.3	40.4	45.1	22.2	19.8	22.8
June	23.4	11.5	12.2	1.9	9.9	21.2	20.1	24.6	40.9	46.4	22.3	21.1	24.3
Sept	32.0	17.8	16.9	4.9	15.1	33.6	32.4	42.0	68.0	67.4	38.0	35.7	39.4
Dec	26.1	13.2	13.4	3.0	10.5	23.7	23.1	30.3	49.7	54.5	27.4	24.5	27.5
1997 March	24.6	10.9	11.6	2.4	8.7	20.0	19.5	25.0	41.6	46.9	22.4	20.6	23.4
June‡	25.5	12.0	12.1	2.3	9.9	22.4	21.3	25.8	43.0	48.5	23.2	22.3	25.6
Balance													
1976	+ 0.6	+ 8.1	- 4.1	- 4.5	- 1.0	- 0.3	+ 6.8	+30.7	+ 33.7	..	+29.1	- 13.8	- 9.8
1981	+ 1.5	+ 2.7	- 1.3	- 2.9	- 8.0	- 5.1	+ 4.8	+17.0	+ 35.8	-32.0	+20.2	- 11.6	-19.3
1986	+14.9	+ 5.4	-14.1	- 6.3	- 9.1	-11.9	+17.1	+16.5	+ 39.2	-49.6	+46.4	- 7.8	-25.8
1991	-16.4	+ 4.0	+ 9.2	+ 3.2	- 0.7	- 0.4	+ 8.1	+ 9.1	+ 13.0	-53.3	+21.8	- 5.2	- 8.8
1993	- 9.7	+ 3.2	+ 7.2	- 0.8	- 3.4	+ 0.3	+10.1	+10.2	+ 23.3	-52.9	+20.5	- 9.2	- 8.6
1994	- 2.9	+ 1.5	+ 2.6	- 1.2	- 6.4	- 4.4	+10.2	+15.1	+ 25.1	-45.9	+23.8	-10.3	-10.1
1995	+ 0.2	+ 1.6	- 3.5	+ 1.8	- 7.7	- 6.8	+ 9.4	+15.9	+ 22.7	-36.9	+23.6	- 8.1	-12.1
1996	+ 5.8	+ 2.0	- 7.5	- 0.4	- 5.9	- 7.4	+ 7.8	+18.3	+ 29.1	-45.4	+28.7	-10.4	- 9.0
Year ending June 1997‡	+ 3.8	+ 3.0	- 4.6	- 2.3	- 6.0	- 7.4	+ 8.5	+19.4	+ 27.7	-48.9	+31.6	-10.6	-10.6
1996 March	- 0.8	- 0.2	+ 0.2	+ 0.7	- 1.7	- 3.2	+ 0.8	+ 4.1	+ 5.8	- 8.0	+ 5.1	- 2.0	- 1.9
June	+ 0.4	- 0.1	- 1.8	+ 1.5	- 2.2	- 4.2	+ 0.1	+ 6.7	+ 8.2	-10.6	+ 7.2	- 2.6	- 2.2
Sept	+ 4.9	+ 1.6	- 3.8	- 2.7	- 0.7	+ 2.2	+ 5.5	+ 3.5	+ 7.7	-14.8	+ 9.6	- 4.7	- 3.5
Dec	+ 1.3	+ 0.7	- 2.1	+ 0.1	- 1.4	- 2.2	+ 1.3	+ 4.1	+ 7.3	-12.0	+ 6.9	- 1.4	- 1.5
1997 March	- 1.5	+ 0.7	+ 0.6	+ 0.2	- 1.5	- 2.6	+ 0.9	+ 5.3	+ 4.7	-10.2	+ 6.2	- 2.2	- 2.1
June‡	- 0.9	+ 0.0	+ 0.7	+ 0.2	- 2.5	- 4.7	+ 0.8	+ 6.7	+ 7.9	-11.9	+ 8.9	- 2.6	- 3.6

‡ Provisional.

Note: Figures are derived from re-registrations recorded at the National Health Service Central Register.

See Notes to table for effects of computerisation of National Health Service Central Register at Southport on time series data.

Table 22

First marriages*: age and sex
England and Wales

Year and quarter		All ages		Persons marrying per 1,000 single population at ages					Per cent aged under 20	Mean age (years)	Median age (years)
		Number (thousands)	Rate†	16–19	20–24	25–29	30–34	35–44			
Males											
1961		308.8	74.9	16.6	159.1	182.8	91.9	39.8	6.9	25.6	24.0
1966		339.1	78.9	22.1	168.6	185.4	91.1	36.4	9.9	24.9	23.4
1971		343.6	82.3	26.1	167.7	167.3	84.6	33.8	10.1	24.6	23.4
1976		274.4	62.8	18.5	123.7	132.5	78.7	32.0	9.8	25.1	23.7
1981		259.1	51.7	11.1	94.1	120.8	70.3	31.1	7.2	25.4	24.1
1986		253.0	44.6	6.0	63.5	104.3	73.7	30.9	3.8	26.3	25.1
1991		222.8	37.0	3.4	42.5	76.5	64.5	31.5	2.1	27.5	26.5
1992		224.2	36.7	3.0	39.4	75.1	62.0	32.0	1.7	27.9	26.8
1993		213.5	35.5	2.5	35.2	73.5	62.4	32.9	1.5	28.2	27.2
1994‡		206.1	33.1	2.2	30.5	68.7	56.6	30.3	1.3	28.5	27.5
1995‡		198.5	31.8	2.0	26.5	65.2	59.6	32.7	1.2	28.9	27.9
1994	March‡	23.3	15.2	1.7	14.8	28.5	25.4	16.5	2.1	28.7	27.6
	June‡	60.2	38.7	2.3	35.1	82.3	66.6	34.0	1.2	28.5	27.5
	Sept‡	89.0	56.6	2.7	53.3	122.5	94.5	45.8	0.9	28.3	27.4
	Dec‡	33.5	21.3	2.0	18.6	40.6	39.0	24.7	1.9	29.0	27.9
1995	March‡	21.5	13.7	1.6‡	12.9	24.8	23.7	15.7	2.2	29.1	28.0
	June‡	57.4	36.3	1.9‡	31.1	75.6	63.7	34.7	1.0	28.9	27.9
	Sept‡	88.9	55.6	2.6‡	48.6	119.0	96.7	47.6	0.9	28.7	27.8
	Dec‡	30.4	19.0	1.8‡	15.9	35.7	34.9	22.8	1.8	29.5	28.3
1996	March‡	22.9	14.2	1.4	13.0	25.5	25.2	16.5	1.9	29.4	28.3
	June‡	56.1	34.8	1.8	28.3	71.5	62.0	34.8	1.0	29.2	28.2
	Sept‡	84.0	51.5	2.4	41.4	109.0	92.5	47.6	0.9	29.0	28.2
	Dec‡	30.4	18.7	1.5	14.6	34.1	35.8	23.1	1.6	29.7	28.7
Females											
1961		312.3	83.0	77.0	261.1	162.8	74.6	29.8	28.7	23.1	21.6
1966		342.7	89.3	82.6	263.7	153.4	74.1	30.2	32.5	22.5	21.2
1971		347.4	97.0	92.9	246.5	167.0	75.7	30.3	31.1	22.6	21.4
1976		276.5	76.9	66.7	185.4	140.7	77.6	31.6	31.1	22.8	21.5
1981		263.4	64.0	41.5	140.8	120.2	67.0	28.7	24.0	23.1	21.9
1986		256.8	55.7	24.1	102.4	108.8	67.1	28.6	13.9	24.1	23.1
1991		224.8	46.9	14.0	74.0	89.4	62.8	30.4	7.9	25.5	24.6
1992		225.6	46.8	12.5	71.0	90.4	63.3	30.2	6.6	25.9	25.0
1993		215.0	45.5	10.7	66.0	92.2	64.5	31.5	5.7	26.2	25.3
1994‡		206.3	41.7	9.5	56.4	84.7	58.3	28.7	6.2	26.5	25.7
1995‡		198.5	40.1	9.0	50.2	83.4	62.2	31.3	5.1	26.9	26.0
1994	March‡	23.1	18.9	7.0	24.1	34.3	28.6	17.0	8.5	26.7	25.6
	June‡	60.6	49.1	10.0	66.8	102.6	66.8	32.0	4.6	26.5	25.7
	Sept‡	89.7	71.9	13.1	102.2	149.9	95.4	40.3	4.2	26.3	25.5
	Dec‡	33.0	26.5	8.0	31.8	51.3	42.0	25.3	6.9	27.0	26.0
1995	March‡	21.0	16.8	6.2	21.0	30.2	25.2	15.3	8.3	27.0	25.9
	June‡	57.7	45.8	9.1	59.5	95.1	65.1	32.8	4.5	27.0	26.0
	Sept‡	89.8	70.4	12.9	94.4	150.0	95.7	42.9	4.1	26.7	25.9
	Dec‡	30.0	23.5	7.4	26.6	46.1	38.2	22.7	7.0	27.5	26.4
1996	March‡	22.5	17.5	6.1	21.1	31.9	26.3	16.6	7.9	27.3	26.3
	June‡	56.3	43.8	8.2	54.7	91.7	65.1	33.0	4.2	27.2	26.3
	Sept‡	84.1	64.7	11.2	81.4	140.2	94.5	41.9	3.9	27.0	26.3
	Dec‡	29.9	23.0	6.5	24.7	45.0	39.2	23.3	6.4	27.7	26.8

* See also Table 8.

† Per 1,000 single persons aged 16 and over.

‡ Provisional.

Table 23

Remarriages*: age, sex, and previous marital status
England and Wales

Year and quarter		Remarriages of divorced persons								Remarriages of widowed persons		
		All ages		Persons remarrying per 1,000 divorced population at ages				Per cent aged under 35	Mean age (years)			Median age (years)
		Number (thousands)	Rate†	16–24	25–29	30–34	35–44			Number (thousands)	Rate**	
Males												
1961		18.8	162.9	478.6	473.6	351.6	198.3	33.9	40.5	39.2	19.1	28.8
1966		26.7	192.2	737.8	522.5	403.1	244.4	40.8	39.3	37.4	18.7	28.3
1971		42.4	227.3	525.2	509.0	390.7	251.3	42.8	39.8	37.0	18.7	27.5
1976		67.2	178.8	656.8	359.7	266.8	187.9	46.7	38.4	36.0	16.9	24.7
1981		79.1	129.5	240.7	260.9	205.8	141.9	46.1	38.1	35.9	13.8	19.7
1986		83.4	90.8	138.6	157.8	141.0	105.8	38.5	39.1	37.7	11.6	16.7
1991		74.9	61.6	79.9	108.4	99.5	72.4	34.3	40.3	39.0	9.1	13.1
1992		78.5	61.0	89.8	105.5	99.6	72.2	37.6	40.6	39.2	8.9	13.1
1993		77.0	59.1	81.2	96.1	94.3	70.3	32.4	40.8	39.4	8.7	12.6
1994‡		76.6	55.8	100.8	100.1	92.5	67.3	31.5	41.1	39.6	8.4	11.9
1995‡		77.0	56.1	96.9	89.9	92.0	68.8	30.2	41.3	39.8	7.8	11.0
1994	March‡	12.0	35.5	74.4	61.1	54.6	41.3	29.9	41.7	40.3	1.5	8.6
	June‡	21.2	62.0	110.3	113.2	101.4	75.4	31.4	41.1	39.7	2.4	13.6
	Sept‡	26.8	77.5	124.8	144.9	139.1	95.1	33.6	40.4	38.8	2.6	14.6
	Dec‡	16.7	48.3	93.4	80.6	74.3	57.0	29.5	41.7	40.4	1.9	10.7
1995	March‡	11.3	31.0	86.1	56.6	48.0	35.0	28.8	42.0	40.6	1.3	7.2
	June‡	21.7	58.8	109.5	107.6	98.3	70.0	29.9	41.3	39.8	2.3	12.7
	Sept‡	28.3	75.9	165.8	147.2	137.1	91.3	32.2	40.8	39.1	2.6	14.1
	Dec‡	15.6	41.8	101.0	70.8	65.4	49.4	28.2	41.9	40.4	1.7	9.2
1996	March‡	12.2	31.8	95.6	65.0	50.8	36.9	28.2	42.0	40.4	1.4	7.7
	June‡	22.4	58.4	112.0	112.0	99.3	69.7	28.5	41.7	40.2	2.2	12.2
	Sept‡	27.8	71.7	159.2	141.8	127.3	88.2	29.7	41.1	39.6	2.4	13.1
	Dec‡	15.7	40.5	84.0	67.9	61.3	48.1	25.3	42.5	41.2	1.7	9.3
Females												
1961		18.0	97.1	542.2	409.6	250.2	111.5	46.8	37.2	35.9	16.5	6.5
1966		25.1	114.7	567.8	411.2	254.8	135.9	52.4	36.2	34.3	16.8	6.3
1971		39.6	134.0	464.4	359.0	232.7	139.8	57.0	35.7	33.0	17.7	6.3
1976		65.1	122.2	458.9	272.3	188.0	124.0	59.8	34.9	32.4	17.0	5.9
1981		75.1	90.7	257.5	202.1	142.9	95.5	57.9	35.1	33.4	13.5	4.6
1986		80.0	68.7	190.6	156.2	111.7	75.5	51.2	36.0	34.7	11.2	3.8
1991		73.4	49.0	113.0	118.5	90.1	55.3	47.4	37.1	35.6	8.5	2.9
1992		77.5	49.5	123.2	118.8	93.1	56.5	46.4	37.4	35.9	8.4	2.9
1993		75.9	48.0	106.4	109.7	89.3	56.3	44.9	37.7	36.2	8.3	2.8
1994‡		76.9	45.4	130.5	106.8	85.0	53.1	44.4	37.9	36.3	7.9	2.7
1995‡		76.9	45.4	111.9	97.7	86.2	54.9	42.8	38.4	36.6	7.5	2.6
1994	March‡	12.3	29.4	91.6	72.6	53.6	33.6	44.7	37.9	36.3	1.3	1.8
	June‡	21.1	49.9	132.0	115.5	93.3	59.1	43.7	38.0	36.5	2.2	3.0
	Sept‡	26.2	61.3	172.7	148.4	119.9	71.4	45.9	37.5	35.9	2.5	3.4
	Dec‡	17.2	40.2	125.0	90.1	72.7	48.0	42.8	38.2	36.8	1.9	2.6
1995	March‡	11.7	27.1	94.9	66.6	51.5	31.1	43.5	38.4	36.5	1.3	1.8
	June‡	21.6	49.4	141.0	114.7	96.7	58.7	42.6	38.4	36.7	2.1	2.9
	Sept‡	27.4	62.0	171.6	148.8	124.4	74.5	43.6	38.3	36.4	2.5	3.4
	Dec‡	16.2	36.6	116.1	81.3	68.1	43.8	41.1	38.9	37.0	1.6	2.2
1996	March‡	12.8	28.3	119.1	71.7	52.9	33.2	41.4	38.5	37.0	1.2	1.7
	June‡	22.2	49.1	156.4	114.8	96.9	59.5	40.6	38.7	37.3	2.2	3.1
	Sept‡	27.7	60.6	191.3	148.3	123.5	74.0	42.0	38.3	36.8	2.3	3.2
	Dec‡	16.3	35.7	120.5	76.6	67.3	44.6	38.5	39.0	37.6	1.6	2.2

* See also Table 8.

† Per 1,000 divorced persons aged 16 and over.

** Per 1,000 widowed persons aged 16 and over.

‡ Provisional.

Table 24

Divorces: age and sex
England and Wales

Year and quarter		Number (thousands) All divorces												
		Petitions filed*	Decrees made absolute			Divorce decrees per 1,000 married population						Per cent aged under 35	Mean age at divorce	Median age at divorce
			All divorces	1st marriage	2nd or later marriage	16 and over	16–24	25–29	30–34	35–44	45 and over			
Males														
1961		13.7	25.4	23.5	1.9	2.1	1.4	3.9	4.1	3.1	1.1	38.3	..	..
1966		18.3	39.1	36.4	2.7	3.2	2.6	6.8	6.8	4.5	1.5	44.2	38.6	36.4
1971		44.2	74.4	69.3	5.2	5.9	5.0	12.5	11.8	7.9	3.1	44.8	39.4	36.6
1976		43.3	126.7	115.7	11.0	10.1	13.6	21.4	18.9	14.1	4.5	48.6	38.0	35.4
1981		46.7	145.7	127.6	18.1	11.9	17.7	27.6	22.8	17.0	4.8	48.6	37.7	35.4
1986		49.7	153.9	128.0	25.9	12.9	30.9	31.2	25.1	18.0	5.2	45.6	37.8	36.2
1991		..	158.7	129.8	29.0	13.6	25.9	32.9	28.5	20.1	5.6	42.7	38.6	37.0
1993‡		..	165.0	133.5	31.5	14.0	23.5	31.6	29.3	21.6	6.1	40.8	39.0	37.3
1994‡		..	158.2	127.5	30.7	13.4	20.0	28.5	28.3	20.7	6.1	39.7	39.3	37.6
1995‡		..	155.5	125.1	30.4	13.2	17.1	26.6	27.9	20.4	6.2	38.7	39.6	37.9
1995	March‡	..	40.6	32.7	7.9	14.0	18.6	28.1	29.6	21.8	6.5	38.7	39.5	37.8
	June‡	..	39.2	31.5	7.6	13.3	17.7	27.3	27.9	20.7	6.2	38.8	39.5	37.9
	Sept‡	..	39.3	31.6	7.7	13.2	16.4	26.0	28.4	20.5	6.3	38.5	39.6	37.9
	Dec‡	..	36.4	29.2	7.2	12.3	15.8	25.1	25.7	18.7	5.9	38.7	39.6	37.9
1996	March‡	..	40.3	32.3	8.0	14.0	23.9	29.2	30.3	22.1	6.5	38.0	37.2	..
	June‡	..	39.1	31.2	7.9	13.6	22.8	28.4	28.5	21.5	6.5	37.3	37.3	..
	Sept‡	..	40.1	32.1	8.0	13.8	21.6	29.2	29.2	22.0	6.4	37.6	37.3	..
	Dec‡	..	34.8	27.9	6.9	12.0	19.3	24.5	24.9	19.1	5.7	36.9	37.4	..
Females														
1961		18.2	25.4	23.4	2.0	2.1	2.4	4.5	3.8	2.7	0.9	49.3	..	..
1966		28.3	39.1	36.2	2.8	3.2	4.1	7.6	6.1	3.9	1.2	54.7	35.8	33.6
1971		66.7	74.4	69.3	5.1	5.9	7.5	13.0	10.5	6.7	2.8	54.4	36.8	33.6
1976		101.5	126.7	115.9	10.8	10.1	14.5	20.4	18.3	12.6	4.0	56.6	36.0	33.1
1981		123.5	145.7	127.7	18.0	11.9	22.3	26.7	20.2	14.9	3.9	58.0	35.2	33.2
1986		130.7	153.9	128.8	25.1	12.9	30.7	28.6	22.0	15.8	4.1	55.0	35.3	33.6
1991		..	158.7	130.9	27.8	13.4	27.7	31.3	25.1	17.2	4.5	52.8	36.0	34.3
1993‡		..	165.0	134.9	30.2	13.9	26.2	32.1	26.5	18.8	4.8	51.3	36.4	34.7
1994‡		..	158.2	128.9	29.3	13.3	22.2	29.6	26.1	18.0	4.9	50.2	36.7	35.0
1995‡		..	155.5	126.0	29.5	13.1	19.9	27.7	25.9	18.1	5.0	48.8	37.0	35.3
1995	March‡	..	40.6	32.9	7.7	13.8	21.6	29.5	27.1	19.3	5.2	48.9	36.9	35.3
	June‡	..	39.2	31.8	7.4	13.2	20.1	28.1	26.0	18.4	5.0	48.9	37.0	35.3
	Sept‡	..	39.3	31.8	7.5	13.1	18.9	27.9	26.3	18.2	5.0	48.8	37.1	35.3
	Dec‡	..	36.4	29.5	6.9	12.1	18.9	25.3	24.0	16.7	4.7	48.7	37.1	35.4
1996	March‡	..	40.3	32.6	7.6	14.1	26.4	30.7	28.4	19.5	5.2	48.3	35.4	..
	June‡	..	39.1	31.5	7.6	13.5	25.1	29.3	27.2	19.1	5.2	47.5	35.5	..
	Sept‡	..	40.1	32.4	7.7	13.9	24.9	31.3	27.6	19.6	5.3	47.9	35.4	..
	Dec‡	..	34.8	28.1	6.6	11.9	21.7	25.6	23.7	17.0	4.6	47.1	37.4	..

Note: The Divorce Reform Act 1969 became operative on 1 January 1971 – the Matrimonial and Family Proceedings Act came into effect on 12 October 1984.

* The figures shown relate to the party who filed the petition. Petitions filed by quarter are not analysed by sex of petitioner – total figures are as follows

Year	Number (thousands)				Year	Number (thousands)			
	March Qtr	June Qtr	Sept Qtr	Dec Qtr		March Qtr	June Qtr	Sept Qtr	Dec Qtr
1989	45.1	44.5	45.0	42.1	1992	48.8	45.5	48.3	46.8
1990	50.2	45.3	47.7	46.0	1993	49.6	43.4	47.5	44.1
1991	45.7	46.8	48.2	38.4	1994	46.2	43.1	44.9	42.0

‡ Provisional.

Notes to Tables

Changes to tables

A number of changes to the tables were introduced in *Population Trends 61* (see page 73 of that issue for details). Table 20 was changed in *Population Trends 70* (see page 61 of that issue for details)

Population

The estimated and projected populations of an area include all those usually resident in the area, whatever their nationality. Members of HM forces stationed outside the United Kingdom are excluded. Students are taken to be resident at their term-time addresses.

Figures for the United Kingdom do not include the population of the Channel Islands or the Isle of Man.

The population estimated for mid-1991 onwards are final figures based on the 1991 Census of Population with allowance for subsequent births, deaths and migration. Population estimates for the years 1982-1990 have been revised, to give a smooth series consistent with both 1981 and 1991 Census results.

Due to definitional changes, there are minor discontinuities for Scotland and Northern Ireland between the figures for 1971 and earlier years. At the United Kingdom and Great Britain levels these discontinuities are negligible.

Live births

For England and Wales, figures relate to numbers occurring in a period; for Scotland and Northern Ireland, figures relate to those registered in a period. See also Note on page 63 of *Population Trends 67*.

Perinatal mortality

On October 1992 the legal definition of a stillbirth was changed, from baby born dead after 28 completed weeks gestation or more, to one born dead after 24 completed weeks of gestation or more.

Expectation of life

The life tables on which these expectations are based use current death rates to describe mortality levels for each year. Each individual year shown is based on a three year period, so that for instance 1986 represents 1985-87. More details may be found in *Population Trends 60*, page 23.

Pensionable ages

Age analyses of the form 45-64/59 or 65/60-74 indicate age groups terminating at or beginning with the state pensionable age, 65 for men, 60 for women.

Deaths for England and Wales

Figures represent the numbers of deaths registered in each year, except for 1993 and 1994, which represent the numbers of deaths occurring in each year. See also Note on page 63 of *Population Trends 67*.

From *Population Trends 91* onwards, deaths data for Tables 8 and 14-16, include figures for the most recent quarter, three months earlier than was previously the case. Data will be less complete for this quarter than for earlier ones.

Abortions

Figures relate to numbers occurring in a period.

Migration

Figures in Tables 18-20 are derived from the International Passenger Survey (IPS), a sample survey of all passengers travelling through major air and seaports of the United Kingdom. Routes to and from the Irish Republic are excluded. Migration between the Channel Islands or the Isle of Man and the rest of the world was previously included in the total migration to the United Kingdom. From 1988 this has been excluded.

It is highly likely that the IPS data also exclude persons seeking asylum after entering the country and short-term visitors granted extensions of stay, for example as students or on the basis of marriage. After taking account of persons leaving the UK for a short-term period who stayed overseas for periods longer than originally intended, the adjustment needed to net migration ranges from about 10 thousand in 1981 to 50 thousand in the latest year available.

A migrant into the United Kingdom is defined in these tables as a passenger entering the United Kingdom with the declared intention of residing here for at least a year having lived abroad for at least a year; and vice versa for a migrant from the United Kingdom.

Old Commonwealth is defined as Australia, Canada, New Zealand and South Africa, *New Commonwealth* is defined as all other Commonwealth countries.

Middle East is defined as Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, the United Arab Emirates, and Yemen.

Figures in Table 21 are based on the movement of NHS doctors' patients between Family Health Services Authorities (FHSAs) in England and Wales, and Area Health Boards in Scotland, and Northern Ireland. Yearly and quarterly figures have been adjusted to take account of differences in recorded cross-border flows between England and Wales, Scotland and Northern Ireland.

The NHS Central Register (NHSCR) at Southport was computerised in early 1991, prior to which a three month time lag was assumed between a person moving and their re-registration with an NHS doctor being processed onto the NHSCR. Since computerisation, estimates of internal migration are based on the date of acceptance of the new patient by the FHSA (not previously available), and a one month time lag assumed.

Marriages and divorces

Marriages are tabulated according to date of solemnisation. Divorces are tabulated according to date of decree absolute, and the term 'divorces' includes decrees of nullity.

Notes to Tables *continued*

Government Office Regions

Figures refer to Government Office Regions (GORs) of England which were adopted as the primary classification for the presentation of regional statistics from April 1997. A map showing the GORs is included on page 81.

Health regions

Figures refer to new health regions of England which are Regional Offices and are as constituted on 1 April 1996.

Sources

Figures for Scotland and Northern Ireland shown in these tables (or included in totals for the United Kingdom or Great Britain) have been provided by their respective General Register Offices, except for the projections in Table 2 which are provided by the Government Actuary. The International Passenger Survey (Tables 18-20) is conducted by the Social Survey Division of ONS.

Rounding

All figures are rounded independently; constituent parts may not add to totals. Generally numbers and rates per 1,000 population are rounded to 1 decimal place (eg. 123.4); where appropriate, for small figures (below 10.0), 2

decimal places are given. Figures which are provisional or estimated are given in less detail (eg. 123 or 7.6 respectively) if their reliability does not justify giving the standard amount of detail. Where, for some other reason, figures need to be treated with particular caution, an explanation is given as a footnote.

Latest figures

Figures for the latest quarters and years may be provisional (see note above on rounding) and will be updated in future issues when later information becomes available. Where figures are not yet available, cells are left blank. Population estimates and rates based on them may be revised in the light of results from future censuses of populations.

Symbols

- .. not available
- : not applicable
- nil or less than half the final digit shown.

Contact points at ONS

People with enquires about the statistics published regularly in *Population Trends* can contact the following enquiry points.

Topic

Abortion statistics – 0171-533 5208

Fertility statistics – 0171-533 5113

Migration statistics – 01329-81 3255/3889

Mortality statistics – 0171-533 5251/5246

Population estimates – 01329 813318

Population projections –

National – 0171-211 2622*

Subnational – 01329 813403

* Government Actuary's Department

General enquiries

National Statistics Information and Library Service,
1 Drummond Gate,
London SW1V 2QQ

Tel 0171-533 6262

Editorial enquires for Population Trends

Population Trends

ONS

B7/05

1 Drummond Gate

London SW1V 2QQ

Tel 0171-533 5101

Government Office Regions and counties in England

